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STUDY OF AUTOMOBILE EXHAUST EMISSIONS IN CONSUMER-OWNED VEHICLES, NATIONAL SURVEILLANCE PROGRAM, 1971-MODEL VEHICLES

OLSON LABORATORIES, INCORPORATED,
DEARBORN, MICHIGAN

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Study of Automobile Exhaust Emissions In Consumer-Owned Vehicles National Surveillance Program

1971-Model Vehicles

Prepared For

Environmental Protection Agency
Office of Air Programs
2565 Plymouth Road
Ann Arbor, Michigan 48105

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ABSTRACT

Exhaust emission tests were conducted on 369 typical 1971-model production light-duty vehicles in consumer use to ascertain the effectiveness of the Federal exhaust emission standards. The vehicles were procured and tested in four different metropolitan areas: Houston, Los Angeles, Detroit, and Denver. The total number of vehicles from each manufacturer (AMC, Chrysler, Ford, GM and Volkswagen) was apportioned approximately to the manufacturer's portion of total production. Each vehicle was tested brand new after receiving dealer preparation (green engine) and again after accumulating 4,000 to 7,000 miles of operation (stabilized engine), using the standard Federal seven-mode, seven-cycle cold start test procedure and the Clayton KEY MODE test procedure.

Emission levels measured in Denver (elevation 5,000 feet) were significantly different from the other three cities. The enrichening effect of altitude on carburetor metering, which tends to cause HC and CO to increase and NO_x to decrease, was evident in these tests. Therefore, results obtained in the other three cities are considered to be more representative of the nation-wide population of 1971-model vehicles.

Considering the all-vehicle sample from Houston, Los Angeles and Detroit, average levels for all three emittants were higher when the engines were "stabilized" than when they were "green". The average HC level for the sample was below the Federal certification standard (2.2 gm/mile) for both the "green" and the "stabilized" conditions. On the other hand the average CO level was higher than the standard (23.0 gm/mile) for both conditions, though insignificantly higher for the "green" condition. The only regulatory standard for NO_x applicable to 1971-model vehicles was the California standard of 4.0 gm/mile. The sample average was below this level for both the "green" and the "stabilized" conditions.

The differences between average emission levels of vehicle samples from individual manufacturers were statistically significant, except that the differences in HC levels when the engines were stabilized were not significant (ranging from 1.97 to 2.30 gm/mile). Average CO levels for the five manufacturers ranged from 22.4 gm/mile (GM) to 42.4 (Chrysler) stabilized. NO_x levels ranged from 2.7 (Volkswagen) to 4.3 (Chrysler) stabilized.

In general KEY MODE test results agreed directionally but not quantitatively with Federal seven-mode test results. The low cruise mode (about 35 MPH) gave the best overall agreement with composite seven-mode results.

Investigation of the effect of idle adjustments on emission levels indicated that correction of maladjustments after the first 4,000 to 7,000 miles of operation had little beneficial effect for the fleet as a whole. Average CO and HC tended to be reduced, and NO_x to be increased, by small amounts.

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SECTION 1

INTRODUCTION

1.1 FOREWORD

Exhaust emission surveillance programs are administered by the Environmental Protection Agency to ascertain the effectiveness of Federal air pollution regulations by measuring the emissions from production vehicles. The program reported herein was conducted to measure the emission levels of 1971 models driven by the motoring public.

The Clean Air Act of 1963 - as amended in 1965 - set national standards for the control of air pollution from new motor vehicles beginning with the 1968 model year. Procedures for testing and certifying prototype 1971-model vehicles for compliance with Federal exhaust emission standards were published in the Federal Register Volume 33, No. 108, Part II, June 4, 1968. These procedures required each manufacturer to build and test a specified number of prototype vehicles that would meet Federal emission standards before Certificates of Conformity were issued to the manufacturer. They did not require that each vehicle produced meet the applicable

standards. They did require that the average emission values from a sample of two or four emission-data vehicles of each displacement, depending on projected sales volume, be less than the standards, when the values had been modified by a deterioration factor obtained from a fleet of four to twelve durability-data vehicles, representative of the manufacturer's engine displacement and transmission options that were expected to account for 70 percent of sales. The standards for exhaust emissions applicable to "new light-duty vehicles" were:

1) Hydrocarbons - 2.2 grams per vehicle mile.
2) Carbon monoxide - 23 grams per vehicle mile.
3) Oxides of nitrogen - no requirement.

1.2 PURPOSE

The main purpose of the testing program was to gather exhaust emission data on typical 1971-model production vehicles in consumer use to determine the relationship between emissions from brand-new vehicles and emissions from these same vehicles after accumulating an additional four to seven thousand miles. The data were also to be used in determining whether the goals of the Clean Air Act were being realized.

1.3 SCOPE

Paired tests (vehicle new, vehicle used) were conducted on a group of 1971 models representative of normal production vehicles* sold in the United States. The proportion of vehicles from each manufacturer was representative approximately of the manufacturer's portion of total production. The vehicles were procured and tested in four metropolitan areas. The total number of vehicles from each manufacturer tested in each city is shown in Table 1-1.

Table 1-1
TEST FLEET COMPOSITION
By Manufacturer and by City

	Houston	Los Angeles	Detroit	Denver	Total
American Motors	9	8	--	20	37
Chrysler	10	23	9	18	60
Ford Motor Company	14	30	15	26	85
General Motors	23	40	24	57	144
Volkswagen	9	11	--	23	43
Total	65	112	48	144	369

No tests on AMC and Volkswagen vehicles were required in Detroit, thus the imbalance between cities was partly due to the design of the experiment. The remaining imbalance was

* Light-duty vehicles as stipulated in the Federal Register, Volume 33, No. 108, Part II, June 4, 1968.

due to unforeseen difficulties encountered in vehicle procurement. For each manufacturer and General Motors make (Buick, Chevrolet, etc.) various engine displacements and various displacement-transmission-carburetor combinations are represented in the sample for each city. A complete breakdown is given in Section 3.

The first emission check was performed on brand-new vehicles that had had normal dealer preparation and less than 60 miles operation. This check consisted of a standard Federal 7-mode, 7-cycle Cold Start test followed by a Clayton KEY MODE test.

The second emission check was performed on these same vehicles after they had accumulated 4,000 to 7,000 miles in normal owner service. The Federal Cold Start test was followed by a Clayton KEY MODE test as before. In addition, idle adjustments were checked, recorded, and reset to manufacturer's specifications. Then an additional KEY MODE test and a 7-mode, 7-cycle Hot Start test were performed.

Testing of the 1971-model vehicles was conducted simultaneously with testing of 1970-model vehicles as a separate phase of the contract. Testing consumed

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approximately 12 months in each city, nearly all during the year 1971. The initial and final dates of testing in each city were:

	Initial	Final
Houston	1/15/71	1/21/72
Los Angeles	11/27/70	12/30/71
Detroit	1/09/71	2/09/72
Denver	2/01/71	1/2?/72

Section 2 describes in detail the composition of the test fleet. The techniques and procedures followed in the fleet procurement are discussed in Section 3. Instrumentation and equipment used in conducting the test program are described in Section 4, and Section 5 details the testing and calibration procedures followed during the program. The results of the test program are presented in Section 6.

The appendixes contain detailed descriptions of each vehicle used in the program and the results of the tests on that vehicle. Also, included in the appendixes are the calculations made in developing the statistical analysis.

SECTION 2

TEST VEHICLES

2.1 VEHICLE SELECTION

Brand new vehicles were selected for testing so that the test fleet would be representative of each manufacturer's production. Within each manufacturer and each General Motors make, displacement-transmission-carburetor combinations were proportioned according to projected sales. Vehicles tested from each manufacturer were distributed proportionally between cities, except that American Motors and Volkswagen were omitted in Detroit as per the contract. A total of 1162 vehicles was chosen and tested initially to obtain the above proportioning for an intended total of 666 paired vehicle tests. The 496 extra initial tests were performed to replace vehicles lost by attrition after the initial tests.

2.2 TEST FLEET COMPOSITION

Unforseen difficulties in retrieving vehicles after 4,000 to 7,000 miles for the second emission check resulted in a program modification to include only 369 paired tests. The final structure of the test fleet according to vehicle

make and distribution among cities is shown in Table 2-1. A more detailed breakdown of this fleet composition, describing the classes of vehicles and showing the number of vehicles from each class for each make, is presented in Table 2-2. Detailed information on individual vehicles is shown by city in Appendix Tables A-1 through A-4.

TABLE 2-1
TEST FLEET COMPOSITION
(SUMMARY)

	Houston	Los Angeles	Detroit	Denver	All	Excluding Denver
American Motors	9	8	-	20	37	17
Chrysler	10	23	9	18	60	42
Ford	14	30	15	26	85	59
Chevrolet	13	22	13	34	82	48
Pontiac	0	6	2	5	13	8
Oldsmobile	5	4	3	6	18	12
Buick	4	6	6	9	25	16
Cadillac	1	2	0	3	6	3
General Motors	23	40	24	57	144	87
Volkswagen	9	11	-	23	43	20
All Vehicles	65	112	48	144	369	225

TABLE 2-2. COMPOSITION OF TEST FLEET

MANUFACTURER	CLASS	CID	TRAN	CARB BBL	HOUSTON	LOS ANGELES	DETROIT	DENVER	TOTAL
AMERICAN MOTORS									
Hornet, Gremlin, Javelin	A1	232	A	1	5	4	0	4	13
			M		2/7	0/4	0/0	3/7	5/18
Hornet, Gremlin	A4	258	A	1	0	1	0	4	5
Javelin, Matador, Hornet	A5	304	A	2	0	2	0	3	5
Javelin, Ambassador, Matador	A7	360	A	2	2	0	0	5	7
Ambassador	A9	360	A	4	0	1	0	1	2
TOTAL AMC					9	8	0	20	37

TABLE 2-2. COMPOSITION OF TEST FLEET - Cont'd.

MANUFACTURER	CLASS	CID	TRAN	CARB BBL	HOUSTON	LOS ANGELES	DETROIT	DENVER	TOTAL
CHRYSLER CORPORATION									
Valiant, Demon, Dart	C10	198	A	1	0	0	0	1	1
Valiant, Demon, Dart	C11	225	A	1	3	2	0	2	7
			M		0	0	0	1	1
					3	2	0	3	8
Coronet, Satellite, Fury, Demon, Barracuda	C12	318	A	2	2	7	4	5	18
Duster	C15	340	A	4	1	0	0	1	2
			M		0	1	0	0	1
					1	1	0	1	3
Fury, Plymouth, Polara	C16	360	A	2	0	4	1	3	8
Monaco, Newport, Challenger, Coronet, Charger	C13	383	A	2	1	5	2	2	10
Roadrunner, Charger	C18	383	A	4HP	3	2	0	1	6
			M		0	0	0	1	1
					3	2	0	2	7

TABLE 2-2. COMPOSITION OF TEST FLEET - Cont'd.

MANUFACTURER	CLASS	CID	TRAN	CARB BBL	HOUSTON	LOS ANGELES	DETROIT	DENVER	TOTAL
CHRYSLER CORPORATION (Cont'd)									
Newport, Chrysler 300	C14	440	A	4	0	1	2	1	4
Newport	C19	440	A	4HP	0	1	0	0	1
TOTAL CHRYSLER					10	23	9	18	60

TABLE 2-2. COMPOSITION OF TEST FLEET - Cont'd.

MANUFACTURER	CLASS	CID	TRAN	CARB BBL	HOUSTON	LOS ANGELES	DETROIT	DENVER	TOTAL
FORD MOTOR COMPANY									
Pinto	F28	98	M	1	1	1	0	1	3
Pinto	F29	122	A	2	3	3	0	2	8
			M		1/4	0/3	0/0	1/3	2/10
Maverick	F30	170	M	1	0	0	1	1	2
Maverick	F32	200	A	1	1	1	1	1	4
Econoline	F37	240	M	1	0	1	1	1	3
Mustang, Maverick	F38	250	A	1	0	0	1	1	2
			M		0/0	1/1	0/1	1/2	2/4
Mustang, Torino, Econoline, Ranchwagon, Comet	F33	302	A	2	5	7	3	2	17
			M		0/5	0/7	1/4	1/3	2/19
Mustang, LTD, Cougar Galaxy, Custom, Montego	F34	351	A	2	1	8	2	4	15
Cougar	F40	351	A	4	0	1	0	0	1

TABLE 2-2. COMPOSITION OF TEST FLEET - Cont'd.

MANUFACTURER	CLASS	CID	TRAN	CARB BBL	HOUSTON	LOS ANGELES	DETROIT	DENVER	TOTAL
FORD MOTOR COMPANY (Cont'd)									
Lt. Duty Truck	F41	360	A	2	0	0	0	1	1
			M		1	1	1	0	3
					1	1	1	1	4
LTD, Galaxy	F35	390	A	2	0	0	2	1	3
LTD, Galaxy	F43	400	A	2	1	4	2	4	11
Marquis, LTD	F45	429	A	2	0	1	0	1	2
Marquis, LTD	F36	429	A	4	0	1	0	2	3
Continental	F47	460	A	4	0	0	0	1	1
TOTAL FORD					14	30	15	26	85

TABLE 2-2. COMPOSITION OF TEST FLEET - Cont'd.

MANUFACTURER	CLASS	CID	TRAN	CARB BBL	HOUSTON	LOS ANGELES	DETROIT	DENVER	TOTAL
GENERAL MOTORS (CHEVROLET)									
Vega	G49	140	A	1	1	1	1	2	5
			M		0/1	1/2	0/1	1/3	2/7
Vega	G50	140	M	2	1	0	0	0	1
Lt.Duty Truck	G52	250	A	1	0	2	4	2	8
			M		2/2	1/3	3/7	2/4	8/16
Chevrolet, Lt.Duty Truck	G56	292	M	1	0	0	0	2	2
Nova, Chevelle, Malibu	G53	307	A	2	3	1	1	2	7
			M		1/4	1/2	0/1	2/4	4/11
Camaro, Chevrolet, Impala, Monte Carlo, Nova, Malibu	G57	350	A	2	2	9	3	12	26
			M		0/2	0/9	1/4	1/13	2/28
El Camino, Belair, Impala, Lt.Duty Truck	G55	350	A	4	1	1	0	4	6
			M		0/1	1/2	0/0	0/4	1/7

TABLE 2-2. COMPOSITION OF TEST FLEET - Cont'd.

MANUFACTURER	CLASS	CID	TRAN	CARB BBL	HOUSTON	LOS ANGELES	DETROIT	DENVER	TOTAL
GENERAL MOTORS (CHEVROLET) Cont'd.									
Impala, Chevrolet, Capri	G59	400	A	2	2	3	0	0	5
Capri, Chevelle, Impala	G60	402	A	4	0	1	0	2	3
			M		0	0	0	1	1
					0	1	0	3	4
Chevelle	G64	454	A	4	0	0	0	1	1
GENERAL MOTORS (PONTIAC)									
Catalina, Lemans	G61	350	A	2	0	1	2	2	5
Catalina, Lemans	G62	400	A	2	0	2	0	1	3
Catalina, Firebird	G68	400	A	4	0	1	0	1	2
Bonneville	G69	455	A	2	0	1	0	0	1
Grandville, Firebird	G70	455	A	4	0	1	0	1	2
GENERAL MOTORS (OLDSMOBILE)									
Cutlass, F-85, Delta 88	G66	350	A	2	1	0	1	2	4

TABLE 2-2. COMPOSITION OF TEST FLEET - Cont'd.

MANUFACTURER	CLASS	CID	TRAN	CARB BBL	HOUSTON	LOS ANGELES	DETROIT	DENVER	TOTAL
GENERAL MOTORS (OLDSMOBILE) Cont'd.									
Cutlass	G72	350	A	4	1	2	0	0	3
Delta 88	G73	455	A	2	0	2	2	1	5
Delta 88, Ninety-Eight	G67	455	A	4	3	0	0	3	6
GENERAL MOTORS (BUICK)									
Skylark, LeSabre	G74	350	A	2	1	3	2	3	9
LeSabre, GS350, Skylark	G71	350	A	4	1	1	1	3	6
Electra, Riviera, LeSabre, GS 445	G75	455	A	4	2	2	3	3	10
GENERAL MOTORS (CADILLAC)									
DeVille	G76	472	A	4	1	1	0	2	4
Eldorado	G78	500	A	4	0	1	0	1	2
TOTAL GENERAL MOTORS					23	40	24	57	144

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TABLE 2-2. COMPOSITION OF TEST FLEET - Concluded

MANUFACTURER	CLASS	CID	TRAN	CARB BBL	HOUSTON	LOS ANGELES	DETROIT	DENVER	TOTAL
VOLKSWAGEN									
Squareback, Fastback	V82	97	A M	FI	1 2/3	1 1/2	0 0/0	2 2/4	4 5/9
Beetle, Super Beetle, Karmann Ghias, Bus	V83	97	A M	1	1 5/6	1 8/9	0 0/0	2 16/18	4 29/33
Porsche	V84	103	M	FI	0	0	0	1	1
TOTAL VOLKSWAGEN					9	11	0	23	43

SECTION 3

VEHICLE PROCUREMENT

3.1 STRATEGIES

3.1.1 Foreword

Initially the procurement effort involved (1) publicizing the program in the mass media to promote voluntary cooperation by the public, (2) obtaining the automobile manufacturers' approval of the program for participation by their dealers, (3) enlisting the cooperation of dealers in procuring brand new vehicles.

3.1.2 Mass Media

At start-up in each new city a news conference was held to publicize the National Surveillance Program. The publicity was intended to promote participation in both phases of the program -- the 1970 model survey (covered in a separate report) and the 1971 model survey.

The mass media were not universally cooperative, however. In Los Angeles, air pollution control and testing is not especially newsworthy because the subject is commonplace,

and it was difficult to capture the interest of sympathetic reporters and columnists. In Houston, testing in conjunction with another program had been underway for ten months. The mass media were generally saturated with emission testing appeals, and their response to the new program was apathetic. In Detroit and Denver, where surveillance testing programs had not been widely promoted in the media, cooperation by newspapers, radio, and television was good.

3.1.3 Automobile Manufacturers

Shortly after the award of the contract, the automobile manufacturers were approached and asked to assist with the programs. Because of the sensitive nature of this request, several months passed before final approval by all manufacturers was received. However, once the decision was made, the support received was highly effective.

The support asked of the manufacturers was that they approve the participation of their dealers in the program. Working through the local company representatives, dealers were contacted and were introduced to the program, and were asked to assist by arranging to have 1971 model vehicles tested prior to their delivery to customers.

3.1.4 Dealers

In many ways, dealers are independent of the manufacturers and it was virtually impossible for the manufacturers to demand that dealers participate in the program. However, most dealers did in fact support the program. Arrangements were made with dealerships to provide specific vehicles, in accordance with the program requirements, as they became available. Accordingly, the project team periodically interfaced with the participating dealers in a given city, determined what vehicles were available (and would become available shortly) and scheduled such vehicles for testing.

3.2 CONTRACTOR, DEALER INTERFACE

Attempts to have the new vehicles tested at the time of sale but prior to delivery to the customer had to be abandoned because of dealer objections to the extra arrangements involved, and to the possible resulting delay in delivery. After delivery of the car, the customer was, in most instances, unwilling to immediately submit the vehicle to the contractor so that the test could be performed before the mileage exceeded 60 miles. The only practical solution to these initial procurement

problems was to test new unsold vehicles on hand at the dealerships. Dealers were cooperative in making such vehicles available for a fee of $5.00 each.

A total of 1,162 vehicles with odometer readings of less than 60 miles was procured and tested initially, far exceeding the anticipated requirements.

Under the circumstances it was necessary to find out when and to whom the new vehicle was sold so that it could be retrieved for the second test. Arrangements were made with the dealer to obtain this information when it became available. The most effective arrangement was to furnish the dealer a self-addressed, postpaid-return card containing his dealer stock number and the serial number of the vehicle, following the initial test. The dealer would keep this card with the records for the vehicle, making it convenient to fill in the name, address, and phone number of the buyer and to mail the card to the contractor when the vehicle was sold.

It was also necessary to arrange with the dealer to notify the contractor in case a tested vehicle was transferred to another dealership in a dealer trade. A letter,

Figure 3-1, was sent to the new dealer to explain the program and request that he furnish the name, address, and phone number of the purchaser. A follow-up phone call or visit to the new dealer was made to obtain the information. The response from these dealers was usually poor. About five percent of the new vehicles tested were dealer traded before sale. Most of these were lost to the program.

The need to rely on the dealer to identify the purchaser when the new vehicle was sold presented difficulties which hampered the procurement effort for the second test. Only about half of the owner identification cards given to dealers when the vehicles were tested were filled out and returned when the vehicles were sold. Periodic phone calls and visits were required to determine the status of test vehicles. Repeated inquiries sometimes became an annoyance to the dealer, but were made necessary because of the slow pace of sales during the year 1971. Many tested vehicles remained in dealer's hands five or six months. This raised the problem of insufficient time after sale to accumulate 4,000 miles within the contract period. Some were not sold during the contract period. On the other hand

FIGURE 3-1

Olson Laboratories, Inc.

Date: _____

General Manager (Get His Name if Possible)
Dealership Name
Address
City, State & Zip

Reference: Year Make Model traded to New Dealer from Dealer Where Car Was Tested; Serial Number; Old Dealer, Stock Number _____.

Dear Sir (Mr. Jones):

We have been advised that you have received the above-referenced 1971 vehicle as a dealer trade.

As part of a nationwide government sponsored air pollution testing program this vehicle has been tested to determine its pollution characteristics. Because the program requires that the vehicle be retested after it accumulates 4,000 miles or more, it is necessary for us to determine the name, address and phone number of the purchaser. We will contact you by phone for the above information.

This program does have the full support of your manufacturer, and you may refer any questions to your local zone service manager, to the original dealer noted above or to us.

Thank you in advance for your valuable assistance.

Yours very truly,

Name, Test Supervisor
Address (Local Laboratory)
City, State, Zip
Phone

many vehicles were sold without the knowledge of the contractor, and accumulated more than the 7,000-mile upper limit before the contractor could locate the owner.

3.3 CONTRACTOR, OWNER INTERFACE

As soon as the identification of a purchaser was obtained from a dealer, a letter, Figure 3-2, was sent to the purchaser along with a postpaid return card, Figure 3-3. The purpose was to explain the program and urge the purchaser to submit his vehicle for testing when it reached 4,000 miles. If no response was received within 2 or 3 weeks, a follow-up letter (Figure 3-4) enclosing the first letter and the return postcard were sent as a brief reminder. If the second letter brought no response the purchaser was contacted by telephone if possible. The call expressed the following reasons for purchaser cooperation:

- The government urgently needs the information that will result from the program.
- Manufacturers and dealers are cooperating with the government in the performance of the program; and the program's success depends on the willingness of the public to help.
- The program has been designed to be as convenient for everyone as possible. Participants are paid, and no unusual operations are performed on the car.

Purchasers willing to participate were asked to contact the laboratory when their car approached 4,000 miles.

FIGURE 3-2

28<

Olson Laboratories, Inc.

Date_____

Name
Address
City, State, Zip

Dear Mr. (Mrs.) Jones:

As the purchaser of a new 1971 automobile, I would like to ask you to make an important contribution toward controlling the nation's serious air pollution problem and get paid for your efforts!

Just before you bought your car, the pollution control system was tested to determine its efficiency in reducing pollutants. The testing program, which is being performed in various cities by Olson Laboratories, Inc. and Automotive Environmental Systems, Inc., is sponsored by the Federal Environmental Protection Agency under contract No. EHS.-70-105.

To complete this important program, it is necessary to retest your car to determine any change in its pollution levels. This retesting must be done after your car has been driven 4,000 miles.

Testing of your car will take only 20 minutes, although the car will be required for one working day, because the test procedure requires that the car not be operated for at least 12 hours before the test. During the test, your car will accumulate just over 7 miles under simulated normal driving conditions in our local laboratory at the address below.

In return for your assistance, you will be paid $5.00 and will receive a free late model loan car while we test your car. Your car and the loan car will be fully insured, and no adjustments of any type will be made. If you wish, you are invited to watch your car being tested, however, please let us know in advance if you so desire.

Please complete the enclosed card and return it to us at your earliest convenience so that we may schedule your car for testing. If you have any questions, please call us at any time.

Very truly yours,

Name, Test Supervisor
Address (Local Laboratory)
City, State, Zip
Phone

FIGURE 3-3

23<

_____, Yes, I am interested in having my 1971 car tested.

Please call me to arrange for an appointment. My phone number is _____.

Best time to call is _____.

My car's make is _____, and model is _____.

Month and year of purchase were _____.

Current mileage on my car is _____.

Owner's Name _____.

Address _____.

Street City State Zip

First Class
PERMIT
No. 1297
DEARBORN
MICH. 48124

BUSINESS REPLY MAIL

No postage stamp necessary if mailed in the United States

Postage will be paid by

OLSON LABORATORIES, INC.
5708 Green Ash St.
Houston, Texas 77036

30<

FIGURE 3-4

Olson Laboratories, Inc.

Date: _____

Participant's Name
Address
City, State, Zip

Dear Mr. (Mrs.) Jones:

I recently wrote to ask for your assistance in conjunction with an extremely important air pollution testing program. Your 1971 automobile has been tested once before it was sold, and we urgently need to retest it after it reaches 4,000 miles. My earlier letter may have gone astray, so I am enclosing a copy of it, along with a card you may send to us acknowledging your willingness to help.

The government urgently needs the results of this testing program, and your contribution will be an important one. Please help by contacting us as soon as possible.

Yours very truly,

Name, Test Supervisor
Address (Local Laboratory)
City, State, Zip
Phone

In addition the owners were contacted periodically to determine mileage status, and were called when it was estimated that the mileage was near 4,000 if the purchaser did not call the laboratory.

Later in the program it became apparent that many vehicles had been sold without the contractor knowing it; hence the practice of tracing owners by submitting the serial numbers of tested vehicles to the state boards of registration was initiated. Letters, Figure 3-5, most of which went as Mail Grams to express urgency, were sent to the names and addresses obtained from the state records, and to those who had not replied to previous letters. The results were disappointing. Only approximately ten percent responded, and of these some were over-mileage. Telephone numbers were not available in any of these cases. Therefore, further efforts to recruit this large body of out-standing owners had to be abandoned.

Many purchasers with whom contact was established could not be recruited because of lack of interest. As a rule they were skeptical, having never heard of the program or Olson Laboratories in spite of advance publicity in the media. Many flatly refused or were ambivalent. A few resented the fact that their car had been tested before they purchased it.

FIGURE 3-5

32<

MAILGRAM

Mr. John B. Smith
4125 Grand Blvd
Anycity, Any State

1971 Buick SS# 123456K7890

Air Pollution is our country's number one problem and, with your help, we at Olson Laboratories can do something about it.

Under a contract issued to us by the Federal Government's Environmental Protection Agency, your car was one of 250 new 1971 vehicles tested before you purchased it from the dealer. Full cooperation from your dealer and manufacturer made this venture possible.

The government has now asked us to re-call these vehicles, and re-test them at this time. Therefore, we need the loan of your car for 24 hours. Although the actual test takes only about 20 minutes of simulated city driving on our dynamometer, the car must be stored indoors overnight prior to the test to be completely cooled down. Your car will be fully insured, carefully handled, and normally driven while in our laboratory at 7557 Telegraph Road, Taylor.

So that it will be convenient for you to make this important contribution to the fight against air pollution we will provide you with a late-model, fully insured loan car with a full tank of gas. Your car and the loan car will be picked-up and delivered if you prefer. Also you will receive a check for $10.00 as a token of appreciation for your cooperation.

I am asking for your help in making this effort possible. Please call me at (313) 291-6300 Ext. 173 (collect if necessary), and I will be happy to give you full details of the program.

Name, Test Supervisor
Address, (Local Laboratory)
City, State, Zip
Phone

A large loss of contacted purchasers resulted because vehicles were over-mileage by the time the contact was established. The loss was severe in Houston and Detroit where it was about 50 percent. It was the main reason for the smaller number of paired tests in those cities. The timing of owner identification and procurement efforts with respect to vehicle use patterns was more fortunate at Los Angeles (small loss) and Denver (trivial loss).

3.4 SUMMARY OF PROCUREMENT EXPERIENCE

Procurement for the initial tests went well because there were no problems in obtaining unsold new cars from dealers for testing.

Procurement for the second tests went poorly because of:

(1) Delays due to vehicles remaining unsold for long periods of time in dealers hands. Many of these vehicles were lost because of insufficient time to accumulate 4,000 miles after sale.

(2) Delays in locating owner, due to failure of dealer to furnish name, etc., of purchaser when vehicle was sold.

(3) Difficulties in persuading owner to submit his car for testing once the contact was established.

(4) Failures to establish contact with the owner before the vehicle accumulated excess mileage. The delays and uncertainties of items (1) and (2) made it difficult to plan and time procurement efforts with respect to vehicle use patterns.

SECTION 4

INSTRUMENTATION AND EQUIPMENT

4.1 DESCRIPTION

The following instrumentation and test equipment was used for vehicle emission measurements at each test site.

- OLI complete vehicle exhaust sampling and analysis system consisting of:
  1) Five (5) Beckman Model 315 or 315A (or Olson-Horiba Model AIA-2) NDIR analyzers for measurement of low range HC, high range HC, CO, CO_2 and NO.
  2) Three (3) Texas Instrument or Honeywell Strip Chart Recorders
  3) Standard EPA design sampling system.
  4) OLI/PCS (Hewlett-Packard) Data Reduction System.
  5) PCS Driver's Aid and Pendant.
- OLI Calibration Gases traceable to EPA Gold Standards.
- Clayton C-200 variable inertia dynamometer with incremental inertia loading.
- Diagnostic instruments such as calibrated tachometers, vacuum and compression gauges, dwell meters, and timing lights.
- A winch to pull and fix the vehicle on the dynamometer.
- An air compressor, battery charger, and other miscellaneous equipment.

4.2 SYSTEM QUALIFICATION

4.2.1 Introduction

Four analytical systems, one in each city, were used to conduct emission tests on 1971-model vehicles. The contract required that each of these systems be qualified by the EPA before testing began. An OLI master system was standardized by calibrating it with an EPA standard system at the Division of Motor Vehicle Pollution Control Laboratory at Ypsilanti, Michigan prior to the start of the test program. The master system was then sent to Kansas City for tests there and for calibration of the other systems. The other three systems were standardized by calibrating each system with the master system on a computer-to-computer basis to the satisfaction of the Project Officer.

4.2.2 Standardization of Master Analytical System

The standardization of the OLI master system took place at EPA facilities at Ypsilanti, Michigan, from July 1 to July 8, 1970. At the end, successful calibrations for HC, CO, CO_2, and NO were obtained in Federal Cold Start tests on three different vehicles with both analysis systems sampling the exhaust simultaneously. Calibration was established on the basis of derived strip chart values,

although computer-to-computer and computer-to-strip-chart comparisons were also made.

In conducting the calibrations, a special double-probe was inserted in the vehicle's tailpipe, and separate sample lines were run to each analytical system. Tests had been performed previously to show that there was no interaction between the two sampling systems despite the proximity of the two probes in the tailpipe. Emittant concentration values (not adjusted by factors for dilution and weighting) were compared on a mode-by-mode basis. For a given mode the maximum allowable concentration difference between the two systems was set at 2.0 percent of instrument full scale reading for each analyzer.

The calibration procedure was such that any variations in concentration readings due to lack of precision in calibration gas analysis, recorder calibration, and hand reading of strip charts were included in the above tolerances. OLI calibration gases previously qualified by EPA were used with the OLI system. OLI and EPA personnel operated their respective systems simultaneously and hand-read their strip charts independently. After EPA was satisfied that the OLI system and the EPA system were within tolerances, the OLI master system was sent to Kansas City to conduct tests and to correlate the other systems used in the project.

4.2.3 Qualification of Calibration Gases

Additional OLI standard gases for use in the program were analyzed by EPA at Ypsilanti to relate their concentrations to the concentrations of EPA standard gases. This was done prior to the system calibrations in Kansas City. As an additional check, when the gases arrived in Kansas City, they were checked against previously qualified OLI standard gases for compatibility. Some discrepancies were found and several bottles were returned and reanalyzed by EPA.

4.2.4 Standardization of Other Analytical Systems

The OLI master system was used to standardize each of the other systems on a computer-to-computer basis. This method of calibration was more comprehensive than a strictly analyzer-to-analyzer comparison or a strip-chart-to-strip-chart comparison because it involved the complete system - data processing equipment as well as calibration gases, analyzers, and flow systems. Each system was calibrated under the supervision of EPA representatives.

For CO, HC, and CO_2 the maximum allowable difference between raw concentration values for the same mode on the two computer printout sheets was two percent of the instrument full scale reading. A tolerance of four percent of full scale was allowed for the NO concentration values.

These criteria were applied independently to each emission value within each mode of the complete Cold Start test. In other words there were 168 (6 cycles x 7 modes/cycle x 4 emittants) possibilities for errors on each test. For system-to-system calibration, complete 7-mode emission tests were required on three different vehicles. Thus a total of 168 x 3 = 504 individual measurements were recorded. It was a requirement that less than five percent of these exceed the tolerances.

4.2.5 Periodic System Cross-Checks

On-site periodic inspections were made by EPA at each facility to insure that the analytical systems were still in agreement with the EPA system. These inspections also provided an opportunity to correct any problems that might have arisen in connection with procedures and record keeping. The system checks were made by EPA personnel using their Automatic Dynamic Calibrator (ADC) and by simultaneous emission testing with the EPA's mobile testing equipment. The ADC device produces cyclical changes in concentration using calibration gases of known analysis, and provides a means to check analyzer readings, system response time, mode integration, and computer calibration under steady state and transient sample flow conditions. The procedures used in the simultaneous

testing were the same as those used during the system qualification. There was no computer on EPA's mobile van, but the OLI computer results were checked against the hand-read strip-chart values of both analytical systems. Other tests that were performed on these audits included leak checks, analyzer curve checks using OLI standards, wet N_2 and CO_2 response checks, analyzer response time, and hydrocarbon hang-up checks.

After the qualification of the OLI master in July 1970, two more audits were made on that system. The first took place in Kansas City in September 1970, prior to standardization of the Houston system, and the second in June 1971. Periodic audits were made in Houston in October 1970, and in July 1971. EPA personnel also made audits at the Los Angeles, Denver, and Detroit facilities in the summer of 1971.

The only serious problem brought to light by any of these cross-checks occurred in Houston in July 1971. This audit revealed an internal nitrogen leak past a three-way valve in the low hydrocarbon sample stream. Leak measurements on the sampling systems showed that only the LHC system was affected, and that the sample was being diluted 13 to 16 percent. The leak was corrected and a program was initiated to determine whether previous data had been

affected. The systems had been thoroughly checked and found satisfactory on April 16, 1971. Twenty-eight (28) vehicles that had been tested in sequence during the possible period of the leak were recalled and tested again. A method was devised to adjust the hydrocarbon results of the two tests on each vehicle to the same CO level, in order to eliminate the effects of a change in air-fuel ratio on hydrocarbon results. Statistical analysis showed good evidence that the percentage change in hydrocarbon level increased with time. In other words, the leak was very small at the start of the period and increased steadily with time. A least squares straight line fitted through these engine emission data gave very close to the same amount of leak at the end of the period as the amount found by the bench test and indicated that the leak started about April 26. A correction procedure based on the linear relation found was accepted by the Project Officer. All cycle 1-4, cycle 6-7, and composite hydrocarbon data obtained in tests made between April 26, 1971 and July 19, 1971 were corrected by dividing by 1.2088 - 0.0018 Day No., where Day No. is the serial number of the day in 1971; 1 for January 1, 1971.

The investigation and correction of the leak problem was described in detail in a separate report to EPA dated

October 8, 1971 and entitled "Effect on Hydrocarbon Emission Data of Leak Found in Houston Sample Train on July 19, 1971".

SECTION 5

TESTING AND CALIBRATION PROCEDURES

5.1 EMISSION TEST PROCEDURES

5.1.1 Introduction

The participating dealerships gave each new vehicle the usual pre-delivery preparation before the vehicle was obtained by OLI for the initial emission test.

When a vehicle was picked up by OLI personnel, the odometer was checked to be sure that the vehicle would have less than sixty miles of operation after it was driven to the testing facility.

In Phase I (green engine) each vehicle was given a Federal 7-mode, 7-cycle Cold-Start test, followed by a Clayton KEY MODE test. In Phase II (stabilized engine) these tests were repeated, and the vehicle's idle adjustments were checked and recorded. An additional KEY MODE test and a Hot Start 7-mode test were then performed after resetting the idle adjustments to manufacturer's specifications.

5.1.2 Federal 7-Mode, 7-Cycle Cold-Start Exhaust Emission Test

Each vehicle was soaked indoors for a minimum of twelve hours at 60°F - 86°F and was pushed or winched onto the dynamometer and fixed into place. The sample probe and exhaust tubing were connected, the hood raised and the cooling fan placed into position. The fuel pump was connected to a supply of Indolene test fuel, and the fuel line from the tank clamped shut. A few vehicles were equipped with a fuel return line. If so, this line was also disconnected and clamped, and a return line attached to the Indolene supply.

The inertia weight was set (the road load horsepower was always preset using the previous car), and the tachometer pick-up connected to the coil to complete the car preperation prior to testing. The inertia weight and horsepower settings for each vehicle model were specified by the Project Officer in a letter to OLI dated November 12, 1970.

The system analyzers were calibrated as described in Section 5.2.6.

The OLI/PCS computer for the system was programmed by entering the test vehicle information to be printed out (make, model, year, CID (or displacement), odometer, serial number, etc.), and data needed by the computer to calculate

modal correction factors, humidity correction factor for NO_x, and mass emission results. These latter data included the inertia weight, transmission type, wet-bulb and dry-bulb temperatures, barometric pressure, and a modal correction factor code.

At this point the computer "asked" for a zero check on each emission analyzer. The test could not be continued until this check was performed. Deviations from zero with nitrogen in the system had to be within 0.5 percent of analyzer full-scale readings before the test could be continued.

The Federal 7-mode, 7-cycle Cold-Start exhaust-emission test was performed according to procedures specified in the 1968 Federal Register, Volume 33, No. 108, Part II. During the test, a speed-time trace was recorded on a strip chart, giving a permanent record of driver performance. An additional check on driver performance was provided by the computer, which recorded the number of deviations from prescribed limits ($\pm$ 1 MPH on steady states, $\pm$ 3 MPH on accelerations, and + 3 MPH on decelerations) for each mode. The number of deviations occurring during the integrated portion of each mode became a part of the computer printout information. The computer also monitored the length of each deviation in seconds and

tenths of seconds. At the end of each cycle the computer printed out the total number of deviations (including those occurring in the non-integrated portions of the test), and the time duration of the maximum deviation.

During the fifth cycle the analytical system was purged and reconditioned. The sample pumps were shut off, the analyzers were purged with nitrogen, the condensate traps were drained and the sample lines were backflushed. The particulate filters were changed and the analyzer zeros were all reset. The analytical system was brought back on stream at the beginning of the sixth cycle idle mode.

5.1.3 Clayton KEY MODE Test

After completion of the Cold Start emission test in Phase I and II, each vehicle was given a Clayton KEY MODE Diagnostic test. This consisted of taking steady-state emission readings at high and low cruise modes, and at idle. The test procedure was as follows.

The inertia flywheels on the dynamometer were disengaged. The desired relation between power absorption and speed on the Clayton dynamometer was obtained by presetting the load to an indicated 30 road-load horsepower at 50 MPH. (For lower powered vehicles the indicated setting could

be 24 horsepower at 46 MPH or 15 horsepower at 38 MPH if more convenient.) The high and low cruise speeds to be used were determined from the vehicle weight as shown in the following table.

KEYMODE TEST SPEEDS, MPH

Vehicle Weight,lb.	High Cruise	Low Cruise	Idle*
3800-up	48/50	32/35	0
2800-3750	44/46	29/32	0
2000-2750	36/38	22/25	0

* Automatic transmissions in drive gear

After the driver had reached the indicated speed, the analytical system was activated. When the emission levels stabilized, the computer was activated and at least three readings were taken of all emittants, the dynamometer speed (MPH) and the engine RPM.

Following completion of the KEY MODE test in Phase I, the driver reset the power absorption unit for the next test, and the analytical system operator performed the necessary checks to validate the test. The vehicle idle RPM, the basic ignition timing, and the dwell setting were also measured and recorded on the computer printout sheet.

5.1.4 Hot Start Test

During Phase II, each vehicle was reset to manufacturer's specifications following the "as received" KEY MODE test. If necessary, adjustments were made to the distributor, dwell setting, basic timing, curb idle RPM and idle mixture setting. The idle mixture was set to lean best idle at the specified idle speed. The hydrocarbon and CO traces were also checked, and if a need was indicated, the carburetor was "balanced side to side" to improve idle emission characteristics. Quite often it was impossible to adjust the idle mixture to lean best idle because of idle mixture limiting devices on the carburetors. In a case like this, the mixture was leaned or richened as much as the limiters would allow and the Hot Start made at this "best possible" setting.

Another Clayton KEY MODE test and a set of hot cycles followed the idle adjustments. Three 7-mode hot cycles were run with emission measurements taken on the last two. Those vehicles that needed no adjustments were also rerun, as a check on vehicle repeatability.

In order to record as much information as possible from each test, a section of the computer print-out sheet was reserved for comments by test personnel. Comments entered included drivability remarks by the driver,

and general remarks about problems encountered while resetting the vehicle idle. For example, if the vehicle stumbled on acceleration, or the idle mixture limiters prevented resetting of the carburetor, or the solenoid throttle positioner was inoperative, these things were noted on the sheet.

5.1.5 Evaporative Emission System Pressure Check

The fuel tank on each 1971 vehicle tested was pressurized with nitrogen to 14" H_2O to check for leaks in the fuel tank filler cap and fuel vapor line fittings to the charcoal canisters or crankcase. Once a pressure of 14" H_2O was reached a needle valve between the bottle of nitrogen and the pressure gauge was shut off and the pressure drop over a period of five minutes was observed. The final pressure was recorded on the computer printout sheet, and is included in the data tables in Appendix E.

Very few leak tests on vehicles in Houston, Los Angeles, and Detroit showed significant losses in pressure during the observation period. Most all of the tests in Denver, however, resulted in pressure losses of 2" H_2O or more. The reason the Denver results differ from those in the other cities is not known. It is suspected that the Denver leak tests were faulty in some respect, since it is improbable that a wide spread leak problem would appear only in Denver.

5.1.6 Data Reduction

The OLI/PCS data reduction system was programmed to do all the necessary calculations at the completion of each test. The modal correction factors were calculated using the formula:

$$cf = \frac{14.5}{\% CO_2 + (0.5)\ \% CO + (10.8)\ \% HC}$$

For those cars equipped with a fuel shut-off device, such as the fuel-injected Volkswagens, a switch was activated on the system console and the computer automatically used the idle mode correction factor for the two deceleration modes.

The conversion from composite concentration to mass values was made as per the 1968 Federal Register, Volume 33, No. 108, Part II, as amended by Federal Register, Volume 34, No. 125.

A humidity correction factor was applied to the NO_X results to relate them to an absolute humidity of 75 grains of water per pound of dry air. The humidity correction factor (K) was determined by the following formula:

$$K = 0.796 + 0.00175H + 0.0000129H^2$$

Where H is the humidity at test conditions in grains of water per pound of dry air. H was calculated by the

computer from the wet-bulb-and dry-bulb temperature readings and the barometric pressure.

5.1.7 Quality Control

The following standard testing procedures were followed by OLI throughout the program.

A) Test Site Quality Audit: The results of each test were checked briefly for obvious analytical system or test operational errors before the vehicle was returned to the participant. If the results or testing procedures were in doubt, the vehicle was held over and the test rerun.

B) Calibration Gases (Daily Working Gases): The concentrations of OLI working gases were checked initially against the concentrations of OLI standard gases, and were rechecked each time an analyzer curve check was performed. The working gases were changed when the bottle pressure dropped below 150 pounds.

C) Cleaning and Maintenance of Analyzer Systems: Periodic cleaning and maintenance was done primarily on the basis of tailpipe purge results and analyzer performance. When it was deemed necessary, the sample lines and sample probe were

replaced or cleaned with an organic solvent such as trichloroethylene. Sample cells and cell windows were similarily cleaned. Other maintenance, such as retuning the analyzer oscillator assembly or rephasing the magnetic switches, was done as the analyzer operation indicated a need for it.

D) Record Keeping: Daily records were kept of all analyzer tune and gain settings, leak checks, LHC and HHC analyzer response to 100 percent CO_2 gas, tailpipe purge responses, etc. A daily record of a typical analyzer calibration was also kept. This included the working gases used, the bottle pressures, the span gas concentrations and set points, and a print-out of the computer responses to the span gases and zero gas. Records of any maintenance done on the analytical system or the dynamometer were also kept on these sheets.

5.2 CALIBRATION AND ANALYTICAL SYSTEM CHECK OUT PROCEDURES

In addition to a number of periodic checks made by the EPA, OLI performed a series of daily, weekly, and monthly system checks.

5.2.1 Leak Checks

On a daily basis, the sample system was leak checked by blocking the inlet to the sample probe, turning the sample pumps on, and observing the rotameter readings (and pressure gauges if so equipped). An internal nitrogen leak problem discovered in Houston by the EPA during a periodic cross-check prompted the adoption of an additional leak check technique. If any anomalies appeared on a daily check, the span gases were checked through the entire sampling system. These readings had to be the same or slightly higher (due to hang up) than the same gases introduced directly into the analyzers.

5.2.2 CO_2 Interference Checks

Before beginning the first test in the morning, the low and high hydrocarbon CO_2 interference cells were recharged with wet 100 percent CO_2, under a slight pressure. Then prior to each test the LHC analyzer response to dry 100 percent CO_2 was checked and recorded on the instrument strip chart. If necessary, the interference cell was recharged before proceeding with the test. The HHC analyzer response was checked in the morning and following every cell recharge.

5.2.3 Tailpipe Purge (Hang Up) Check

Before the start of testing and at the completion of each test, nitrogen was passed through the analytical system, starting at the sample probe, to determine system hang up. The results were recorded on strip charts. If the hydrocarbon reading was higher than 1.0 - 1.5 percent of full scale, as it would often be after testing a particularly "dirty" vehicle, the system was purged and backflushed until the hang up was brought back to normal. This was accomplished before another vehicle was tested.

5.2.4 Data Reduction System Check

The analog to digital converter was given a "zero" and "span" check once a day, and adjusted if necessary. Also, the interface unit was checked each day by obtaining a zero voltage output from each analyzer on the system's digital volt meter (DVM) and checking the computer response. The interface was adjusted if necessary to give a computer printout of zero (or close to zero) for each analyzer.

5.2.5 Flow Rates and Bypass Rates

The flow rates were checked on a test to test basis especially during the first and sixth cycles. In the morning, the zero gas (nitrogen), the span gas, and the

100 percent CO_2 gas flow rates were also checked and reset if necessary so that the entire calibrating procedure could be completed without changing any flow control valve settings.

At least once a week the system bypass rates and the maximum sample pump flow rates were also checked. After confirmation that the sample pumps were still functioning properly, the bypass and flow rates were set back to system specifications.

5.2.6 Analyzer Adjustment Checks

The following check procedure was carried out before each test. All the analyzers were zeroed on nitrogen, and spanned with two calibration gases. A high span gas was used to set the analyzer gain, and an intermediate span gas as a check on the integrity of the analyzer curve. A record of each adjustment was preserved on the instrument strip charts. Also, a computer printout was obtained for each calibration checking the zero, high, and intermediate span points. At the end of each test, the zero and both span points were rechecked without any zero or gain adjustments and the results recorded on the strip charts.

The recorders were also checked each day. The zero and span settings were adjusted to agree with the system digital voltmeter readings.

5.2.7 Analyzer Calibration Curve Checks

Analyzer curves were rechecked every four to six weeks with OLI standard gases traceable to EPA Gold Standards. This was also done by the EPA during their periodic "on site" cross checks.

The analyzer curves were generated by the PCS data reduction system. The computer software fitted a calibration curve through a number of known points (determined by the standard gases). The mathematical method employed in the software program to fit the curve and interpolate between points is based on the Lagrangian form of the interpolating polynomial. The computer calculated and stored the curves internally as tables in units from 0 to 1,000, and referenced these tables to determine concentration values. The teletypewriter printed the tables in one percent increments from 0 to 101 for evaluation by the operator. The same program was used to generate DVM and strip-chart-recorder curves.

5.2.8 System Time Delay Checks

A check was made daily to see that the triggering of integration by the computer upon detecting a change in concentration was synchronized with the mode change indicated on the strip chart. This was done by checking

the time relation on the strip chart between the observed start of a new mode and the pen-mark denoting start of integration by the computer.

In addition every two weeks, the strip charts of a random test were completely hand read and the results compared to computer values.

5.2.9 Miscellaneous Analytical System Checkout

1. Ice Bath: The water level and temperature were checked each day prior to testing.

2. NO Dryer Columns: The indicating Drierite used in the NO dryer columns was checked prior to each test. If necessary, it was changed before testing was initiated.

SECTION 6

SUMMARY AND ANALYSIS OF RESULTS

6.1 FOREWORD

Results obtained on the 1971 model vehicles were similar to those obtained on 1970 model vehicles in a separate phase of the contract in that emission levels in Denver were significantly different from those in the other cities in the program. This could be expected because of the enrichening effect of altitude on carburetor metering (Denver is at an elevation of about 5,000 feet) and the concomitant effect on emission levels. In addition, the car-to-car variability in HC and CO emissions tended to be greater in Denver than in the other cities. Therefore, the all-city averages are presented two ways in the report, including Denver and excluding Denver. The averages that exclude Denver are thought to be more representative of the nation-wide population of 1971-model vehicles.

The principal tool for examination of the emission data was the unbalanced one-way analysis of variance*. Although

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* An unbalanced two-way analysis of variance was not appropriate although the statistical pattern resembled an unbalanced two-way crossed design with four cities and either nine makes or five manufacturers (depending on the method of breakdown). With four of the city-make subclasses empty and four others having three or less vehicles each, an approximate two-way statistical analysis by the Method of Unweighted Means was impossible. That method requires at least one vehicle in every subclass. Also, the Method of Fitting Constants by linear least squares regression would not give reliable results in view of the small number of vehicles in some subclasses.

the contract did not require an analysis of variance, 402 one-way variance combinations were computed to aid in judging the significance of differences among manufacturers, makes, and cities for each emittant. The results for variance combinations are collected in Appendix D. In addition to the usual items the following are also shown: Standard Deviation based on the Within-Group-Mean-Square (the basic error term); Grand Mean of all the data; Total Standard Deviation about the Grand Mean. Statistical significance was judged using the standard normal theory F-Tables. Separate calculations were made for city effects including and excluding Denver. Recommendations for additional analyses are made in Section 6.5.

The results of many of these variance analyses must be used with caution due to a small number of vehicles in the city-make subclass (see Table 3-1). The discriminatory power of the analysis of variance method becomes poor when there are only 1 to 3 vehicles in a subclass. Also, the absence of data for one make in Houston and three makes in Detroit must be kept in mind.

The main body of detailed information and results on which the summaries and analyses in this section are based is located and classified in the Appendix. The Federal Cold-Start exhaust emission test results presented herein are

on a (gm/mile) basis with NO_x corrected for atmospheric humidity by the method explained in Section 5.1.6. Corresponding data on a concentration basis and uncorrected NO_x data are included in Appendix B and Appendix C.

6.2 AVERAGE EMISSION LEVELS

6.2.1 Green Engine (0-60 Miles)

Mean emission levels for the green engine condition of each manufacturer and each make are summarized for mass HC, CO, and NO_x (corrected for humidity) in Tables 6-1 through 6-3 respectively. Results are shown for each city, and for city averages that include and exclude Denver.

Significance results from the analyses of variance performed on these emission data are presented in Table 6-4. In the case of all three emittants there are highly significant differences in emission levels between the nine makes and between the five manufacturers for each city and for the combined cities with and without Denver. This is also evident from the wide range of averages shown in Tables 6-1 through 6-3. There are also significant differences between cities for most makes when Denver is included. However, with Denver excluded only a few make-emittant combinations were found to be statistically different from city to city.

Mean hydrocarbon emission levels for the five manufacturers and nine makes (Table 6-1) were generally below the Federal standard for certifying prototype vehicles (2.2 gm/mile) when averaged over all cities, except that AMC and Chrysler were slightly above. With Denver excluded from the averages, however, all makes were well below, and only three makes differed significantly in emission level from city-to-city:

HYDROCARBONS, Gm/Mile

Make	Houston	Los Angeles	Detroit	Average
AMC	1.89	1.06	-	1.50
Ford	1.86	1.24	2.36	1.67
Buick	0.94	0.77	1.26	1.00

All-city mean CO levels for the five manufacturers and nine makes (Table 6-2) substantially exceeded (some over twice) the prototype standard of 23 gm/mile when Denver data were included in the averages. With Denver excluded, the all vehicle average was down to 23.7 gm/mile, which is indicative of leaner carburetor mixtures at lower altitudes. Of the five manufacturers, only Chrysler, at 37.2 gm/mile, was substantially above the standard. GM and Ford were below, but not significantly.

Only AMC and Ford showed highly significant city-to-city

effects (Denver excluded):

CARBON MONOXIDE, Gm/Mile

Make	Houston	Los Angeles	Detroit	Average
AMC	35	13	-	24
Ford	27	14	31	21

The city pattern in the above data, with Los Angeles lowest Houston mid, and Detroit highest of the three, persists for every make but one, although only AMC and Ford data are statistically significant. A similar pattern can be observed in the hydrocarbon results.

There was no Federal standard for NO_x applicable to 1971-model prototype vehicles. The only standard in effect was that in the State of California, 4.0 gm/mile. The all-city averages in Tables 6-3 show that all manufacturers and makes were below this standard in the green engine condition, with or without Denver included.

For all vehicles, city differences are statistically significant for all three emittant variables when Denver is included, but only for HC and CO when Denver is excluded, as shown in Table 6-4. The mean emission levels for individual cities are summarized below.

MEAN EMISSION LEVELS, Gm/Mile

Emission Variable	Houston	Los Angeles	Detroit	Denver	All	Excluding Denver
HC	1.58	1.29	1.77	2.63	1.93	1.48
CO	27.12	19.73	28.51	63.98	39.44	23.73
NO_x	3.35	3.07	3.08	2.86	3.04	3.15

The low values for HC and CO in Los Angeles stand out. With Denver excluded, the NO_x data are remarkably uniform.

Denver data for HC and CO tend to be higher for all makes. (The sole exception is the scanty information for Cadillac where Denver HC is between the Houston and Los Angeles values.) For CO, Denver mass data are 1.4 to 6.3 times the averages for the other three cities (averaging 2.7 times). For HC, the range is 1.4 to 2.8, averaging 1.8 times. The NO_x data are significantly lower in Denver than in the other cities. (Ford data, however, are not only unusually high for Denver but are the highest NO_x values reported, 4.45 gm/mile.)

TABLE 6-1

MEAN HYDROCARBONS, Gm/Mile

Green Engine

	Houston	Los Angeles	Detroit	Denver	All	Excluding Denver
AMC	1.89	1.06	-	3.12	2.37	1.50
Chrysler	1.95	1.74	1.92	3.22	2.25	1.83
Ford	1.86	1.24	2.36	3.07	2.10	1.67
Chevrolet	1.38	1.14	1.46	2.37	1.74	1.29
Pontiac	-	1.15	1.60	1.82	1.48	1.26
Oldsmobile	0.78	0.69	0.81	2.13	1.22	0.76
Buick	0.94	0.77	1.26	2.08	1.39	1.00
Cadillac	0.67	0.51	-	0.67	0.61	0.56
All G.M.	1.14	1.01	1.34	2.16	1.54	1.13
Volkswagen	1.55	1.67	-	2.43	2.05	1.62
ALL VEHICLES	1.58	1.29	1.77	2.63	1.93	1.48

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TABLE 6-2

MEAN CARBON MONOXIDE, Gm/Mile

Green Engine

	Houston	Los Angeles	Detroit	Denver	All	Excluding Denver
AMC	34.54	12.64	-	74.14	51.21	24.23
Chrysler	38.19	34.41	43.24	81.37	50.45	37.20
Ford	26.53	13.96	31.03	51.25	30.45	21.28
Chevrolet	23.10	17.96	20.64	76.46	43.45	20.08
Pontiac	-	21.82	45.47	45.92	34.73	27.73
Oldsmobile	12.42	6.24	13.02	66.43	29.15	10.51
Buick	18.89	10.38	19.26	60.51	31.92	15.84
Cadillac	17.41	10.24	-	46.92	29.77	12.63
All G.M.	19.80	15.84	21.41	68.65	38.31	18.42
Volkswagen	26.99	24.09	-	44.33	35.52	25.40
ALL VEHICLES	27.12	19.73	28.51	63.98	39.44	23.73

TABLE 6-3

MEAN NITROGEN OXIDE (NOx). Gm/Mile

Green Engine

	Houston	Los Angeles	Detroit	Denver	All	Excluding Denver
AMC	3.38	2.36	-	2.85	2.88	2.90
Chrysler	4.19	3.49	3.37	2.97	3.43	3.63
Ford	4.24	3.33	3.86	4.45	3.92	3.68
Chevrolet	2.68	3.03	2.67	2.14	2.55	2.84
Pontiac	-	2.96	1.71	2.56	2.62	2.65
Oldsmobile	2.58	2.94	2.92	2.72	2.77	2.79
Buick	2.52	2.43	2.15	2.16	2.28	2.35
Cadillac	2.02	2.36	-	2.34	2.29	2.25
All G.M.	2.60	2.89	2.49	2.25	2.52	2.70
Volkswagen	2.95	2.69	-	2.48	2.63	2.81
ALL VEHICLES	3.35	3.07	3.08	2.86	3.04	3.15

TABLE 6-4

VARIANCE ANALYSIS RESULTS[a] - GREEN-ENGINE EMISSION LEVELS

	HC	CO	NO_x
Between Makes in Same City			
Houston	**	*	**
Los Angeles	*	**	*
Detroit	**	**	**
Denver	**	**	**
Houston, L.A., Detroit	**	**	**
4 Cities	**	**	**
Between Manufacturers in Same City			
Houston	**	**	**
Los Angeles	**	**	**
Detroit	**	**	**
Denver	**	**	**
Houston, L.A., Detroit	**	**	**
4 Cities	**	**	**
Between Cities (all 4) For Same Make			
American Motors	**	**	-
Chrysler	**	**	-
Ford	**	**	*
Chevrolet	**	**	**
Pontiac	*	-	*
Oldsmobile	**	**	-
Buick	**	**	-
Cadillac	-	*	-
General Motors	**	**	**
Volkswagen	**	**	-
All Vehicles	**	**	**
Between Cities (Excluding Denver) For Same Make			
American Motors	**	**	-
Chrysler	-	-	-
Ford	**	**	-
Chevrolet	-	-	-
Pontiac	-	-	*
Oldsmobile	-	-	-
Buick	**	-	-
Cadillac	-	-	-
General Motors	*	-	*
Volkswagen	-	-	-
All Vehicles	**	**	-

a. Chances that different makes or cities belong to same population are indicated as follows:

- \- Greater than 5 in 100. Differences not significant.
- * Between 1 and 5 in 100. Differences significant.
- ** Less than 1 in 100. Differences highly significant.

6.2.2 Stabilized Engine (4000 - 7000 miles)

Mean emission levels for the stabilized engine condition for each manufacturer and each make are summarized for mass HC, CO, and NO_x (corrected for humidity) in Tables 6-5 through 6-7 respectively. The tables present the data in the same way the green engine data were presented in the previous section.

Significance results from the analyses of variance are shown in the same way as before in Table 6-8. The main difference between these results and those in Table 6-4 for the green engine is that the HC data no longer tend to show highly significant differences in emission levels between manufacturers or between makes in the same city. For the other two emittant variables the data still tend to show highly significant differences.

Mean hydrocarbon emission levels (Table 6-5) for the five manufacturers tended to be slightly higher than the standard (2.2 gm/mile) ranging from 2.2 to 2.6 when Denver was included. With Denver excluded they ranged from 2.0 to 2.3, with an all vehicle mean of 2.1; and only three of the nine makes (AMC, Chrysler, Ford) showed significant differences, between cities.

Mean CO levels (Table 6-6) were considerably higher than standard (23 gm/mile) for all five manufacturers when Denver was included, ranging from 30.7 to 49.4. Without Denver they ranged from 22.4 (GM) to 42.4 (Chrysler). Denver's obvious effect on average CO levels again demonstrates the enrichening effect of altitude on carburetor metering. Differences between cities for the same make tended to be highly significant when Denver was included. With Denver excluded, only one make (Ford) differed significantly city-to-city.

Mean NO_x levels (Table 6-7) averaged over the cities tended to be slightly higher when Denver was excluded. The levels for the five manufacturers ranged from 2.7 (VW) to 4.2 (Ford, Chrysler), and the all vehicle mean was 3.74. GM was notably low at 3.3. The only regulatory standard in effect for NO_x was that of California at 4.0 gm/mile. As shown in Table 6-8, differences in NO_x levels between cities for the same make were significant for five of the nine makes when Denver was included, and for three of the makes (AMC, Chrysler, Ford) when Denver was excluded.

For all vehicles, city differences are statistically significant for all emittant variables with or without Denver included (Table 6-8). The mean emission levels for individual cities are summarized below.

MEAN EMISSION LEVELS, Gm/Mile

Emission Variable	Houston	Los Angeles	Detroit	Denver	All	Excluding Denver
HC	2.41	1.68	2.77	3.16	2.53	2.12
CO	33.72	25.24	31.46	45.20	35.33	29.02
NO_x	4.27	3.41	3.80	3.19	3.53	3.74

It can be seen that the Los Angeles results are considerably lower than for Houston and Detroit. All five manufacturers have lower HC levels in L.A. (Table 6-5) with CO levels being about the same or lower than in the other two cities (Table 6-6). All except GM have lower NO_x levels in L.A.

Denver data are markedly higher than the averages for the other three cities for HC and CO. Denver HC levels range from 1.15 to 1.83 times as much depending on the make, with CO levels up to three times as much. On the other hand Denver is significantly lower in NO_x than the other three cities.

TABLE 6-5

MEAN HYDROCARBONS, Gm/Mile

Stabilized Engine

	Houston	Los Angeles	Detroit	Denver	All	Excluding Denver
AMC	2.27	1.64	-	3.20	2.64	1.97
Chrysler	2.97	1.75	2.51	3.36	2.55	2.20
Ford	3.20	1.47	3.13	3.24	2.59	2.30
Chevrolet	2.22	2.07	2.89	4.27	3.14	2.33
Pontiac	-	1.67	2.03	2.27	1.96	1.76
Oldsmobile	1.32	0.98	3.05	1.89	1.72	1.64
Buick	1.65	1.45	2.08	2.24	1.92	1.74
Cadillac	0.87	0.72	-	1.05	0.91	0.77
All G.M.	1.87	1.74	2.64	3.36	2.55	2.02
Volkswagen	2.10	1.93	-	2.40	2.22	2.01
ALL VEHICLES	2.41	1.68	2.77	3.16	2.53	2.12

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TABLE 6-6

MEAN CARBON MONOXIDE, Gm/Mile

Stabilized Engine

	Houston	Los Angeles	Detroit	Denver	All	Excluding Denver
AMC	28.99	27.18	-	54.63	42.46	28.14
Chrysler	51.09	39.11	40.94	65.68	49.35	42.35
Ford	40.15	22.42	30.13	38.02	31.47	28.59
Chevrolet	28.84	17.61	29.79	47.82	33.85	23.95
Pontiac	-	23.14	52.28	29.08	29.91	30.42
Oldsmobile	12.32	6.02	19.68	32.31	18.81	12.06
Buick	30.77	17.61	23.10	42.01	29.82	22.96
Cadillac	14.05	13.62	-	42.51	28.14	13.76
All G.M.	24.94	17.08	28.73	43.35	30.67	22.37
Volkswagen	31.57	32.24	-	33.71	32.89	31.94
ALL VEHICLES	33.72	25.24	31.46	45.20	35.33	29.02

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TABLE 6-7

MEAN NITROGEN OXIDE (NO_x), Gm/Mile

Stabilized Engine

	Houston	Los Angeles	Detroit	Denver	All	Excluding Denver
AMC	5.05	2.94	-	3.07	3.52	4.06
Chrysler	5.43	3.78	4.17	3.40	4.00	4.26
Ford	4.85	3.58	4.91	4.68	4.36	4.22
Chevrolet	3.81	3.62	3.00	2.57	3.11	3.50
Pontiac	-	2.98	1.99	2.79	2.75	2.73
Oldsmobile	3.68	4.33	3.85	4.05	3.98	3.94
Buick	2.68	2.69	2.83	2.03	2.48	2.74
Cadillac	3.27	3.34	-	2.43	2.87	3.32
All G.M.	3.55	3.44	2.98	2.65	3.07	3.34
Volkswagen	3.09	2.37	-	2.78	2.74	2.69
ALL VEHICLES	4.27	3.41	3.80	3.19	3.53	3.74

TABLE 6-8

VARIANCE ANALYSIS RESULTS[a] - STABILIZED-ENGINE EMISSION LEVELS

	HC	CO	NO_x
Between Makes in Same City			
Houston	**	*	*
Los Angeles	-	**	*
Detroit	-	-	**
Denver	-	**	**
Houston, L.A., Detroit	-	**	**
4 Cities	-	**	**
Between Manufacturers in Same City			
Houston	**	**	**
Los Angeles	-	**	**
Detroit	-	-	**
Denver	-	**	**
Houston, L.A., Detroit	-	**	**
4 Cities	-	**	**
Between Cities (all 4) For Same Make			
American Motors	**	*	**
Chrysler	**	**	*
Ford	**	**	*
Chevrolet	-	**	**
Pontiac	-	-	-
Oldsmobile	-	**	-
Buick	-	*	*
Cadillac	-	*	-
General Motors	-	**	**
Volkswagen	-	-	-
All Vehicles	**	**	**
Between Cities (Excluding Denver) for Same Make			
American Motors	**	-	**
Chrysler	**	-	*
Ford	**	**	*
Chevrolet	-	-	-
Pontiac	-	-	-
Oldsmobile	-	-	-
Buick	-	-	-
Cadillac	-	-	-
General Motors	-	-	-
Volkswagen	-	-	-
All Vehicles	**	*	**

a. Chances that different makes or cities belong to same population are indicated as follows:

- \- Greater than 5 in 100. Differences not significant.
- * Between 1 and 5 in 100. Differences significant.
- ** Less than 1 in 100. Differences highly significant.

6.2.3 Car-to-Car Variability

The car-to-car variability for the mass emission data can be assessed by examining the within-sum-of-squares terms in the analyses of variance. The values represent the variability from car-to-car of the same make tested in the same city. (They also reflect some differences attributable to different models within the same make.) The standard deviations are shown in Table 6-9 for the 3-city data (excluding Denver) for both Green Engine and Stabilized Engine results. The same information is presented in more detail in Tables in Appendix D-4 which show standard deviations for each city and for each make.

Table 6-9 also permits direct comparison of average emission levels for the Green Engine condition and the Stabilized Engine condition, based on the 3-city data. A detailed analysis of differences between Green and Stabilized engines is presented in the next section, 6.3.

TABLE 6-9

AVERAGE EMISSION LEVELS AND CAR-TO-CAR VARIABILITY[a]

	Green Engine			Stabilized Engine		
	3-Cities Average	Standard Deviation Car-to-Car	Standard Deviation Percent	3-Cities Average	Standard Deviation Car-to-Car	Standard Deviation Average
Mass, Gm/Mile						
HC	1.48	0.63	43	2.12	1.10	52
CO	23.74	12.25	52	29.02	18.41	63
NO_x	3.16	0.99	31	3.74	1.35	36

a. Based on tests on 1971 vehicles of the same make in the same city. Denver data are excluded.

6.3 DIFFERENCES IN EMISSION LEVELS (STABILIZED MINUS GREEN)

6.3.1 Differences Based on Federal Cold Start Tests

Differences between stabilized engine results and green engine results on a given vehicle show the change in emission levels during the first 4,000 to 7,000 miles of operation. Average differences in terms of gm/mile for vehicles from each manufacturer and each make are summarized for HC, CO and NO_x (corrected for humidity) in Tables 6-10 through 6-12 respectively. Results are shown for each city, and all cities both including and excluding Denver.

The data indicate that all three emittants tend to increase during the first 4,000 to 7,000 miles of operation. The all-city averages that exclude Denver are the best representation of the differences between Stabilized and Green since the Denver CO difference is anomalous in direction and magnitude. These differences and the Denver differences are summarized in Table 6-13. Ninety-five percent confidence limits based on the over-all standard deviations are also given in the table.

Significance results from the analysis of variance performed on the differences in Tables 6-10 through 6-12 are presented in Table 6-14. There are no statistically significant

differences between makes in the same city or between manufacturers in the same city except in the case of the Denver CO data. When data from all cities except Denver are combined, differences between makes or between manufacturers are significant for NO_x only.

Similar variance analyses show that there are statistically significant city effects for a number of makes and emission variables when Denver is included. These city differences tend to become insignificant when Denver is excluded. When all vehicles in a city are combined, however, city differences become statistically significant for HC and NO_x in comparisons excluding Denver. The differences are summarized below.

STABILIZED MINUS GREEN DIFFERENCES

Average Gm/Mile	Houston	Los Angeles	Detroit	Average
HC	0.83	0.39	1.00	0.65
CO	6.60	5.51	2.95	5.28
NO_x	0.91	0.33	0.72	0.58

Los Angeles shows smaller increases in HC and NO_x that are highly significant. Detroit shows a smaller increase in CO that is not statistically significant.

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TABLE 6-10

HYDROCARBONS, gm/Mile

Stabilized Engine Minus Green Engine Differences, Average

	Houston	Los Angeles	Detroit	Denver	All	Excluding Denver
AMC	0.38	0.58	-	0.09	0.26	0.47
Chrysler	1.01	0.01	0.59	0.14	0.30	0.37
Ford	1.35	0.23	0.77	0.17	0.49	0.63
Chevrolet	0.84	0.93	1.44	1.90	1.40	1.04
Pontiac	-	0.51	0.43	0.45	0.48	0.49
Oldsmobile	0.54	0.28	2.24	-0.25	0.50	0.88
Buick	0.70	0.68	0.82	0.15	0.53	0.74
Cadillac	0.20	0.22	-	0.38	0.30	0.21
All G.M.	0.72	0.26	1.30	1.19	1.01	0.89
Volkswagen	0.55	0.26	-	-0.03	0.17	0.39
ALL VEHICLES	0.83	0.39	1.00	0.53	0.60	0.65

60<

TABLE 6-11

CARBON MONOXIDE, Gm/Mile

Stabilized Engine Minus Green Engine Differences, Average

	Houston	Los Angeles	Detroit	Denver	All	Excluding Denver
AMC	-5.55	14.54	-	-19.51	-8.75	3.90
Chrysler	12.89	4.70	-2.30	-15.69	-1.10	5.15
Ford	13.62	8.46	-0.90	-13.23	1.02	7.30
Chevrolet	5.74	-0.35	9.15	-28.64	-9.61	3.67
Pontiac	-	1.32	6.81	-16.84	-4.82	2.69
Oldsmobile	-0.11	-0.22	6.66	-34.13	-10.35	1.54
Buick	11.88	7.22	3.84	-18.49	-2.10	7.12
Cadillac	-3.37	3.37	-	-4.40	-1.64	1.13
All G.M.	5.14	1.24	7.32	-25.30	-7.63	3.95
Volkswagen	4.58	8.16	-	-10.61	-2.63	6.55
ALL VEHICLES	6.60	5.51	2.95	-18.77	-4.11	5.28

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TABLE 6-12

NITROGEN OXIDE (NO_x), Gm/Mile

Stabilized Engine Minus Green Engine Differences, Average

	Houston	Los Angeles	Detroit	Denver	All	Excluding Denver
AMC	1.66	0.57	-	0.22	0.65	1.15
Chrysler	1.24	0.29	0.80	0.43	0.57	0.63
Ford	0.61	0.25	1.05	0.23	0.44	0.54
Chevrolet	1.11	0.59	0.33	0.44	0.56	0.65
Pontiac	-	0.02	0.28	0.22	0.14	0.08
Oldsmobile	1.10	1.39	0.93	1.32	1.21	1.15
Buick	0.16	0.26	0.68	-0.14	0.20	0.39
Cadillac	1.25	0.98	-	0.09	0.58	1.07
All G.M.	0.94	0.55	0.49	0.40	0.54	0.63
Volkswagen	0.14	-0.32	-	0.30	0.11	-0.11
ALL VEHICLES	0.91	0.33	0.72	0.33	0.48	0.58

TABLE 6-13

STABILIZED MINUS GREEN DIFFERENCES

Average Gm/Mile	No. of Vehicles	Average	Confidence Limits			Standard Deviation
		Houston, Los Angeles, Detroit				
HC	225	0.65	0.51	to	0.79	1.12
CO	225	5.28	2.68	to	7.88	19.75
NO_x	224	0.58	0.44	to	0.72	1.08
		Denver				
HC	144	0.53	0.13	to	1.19	3.99
CO	144	-18.77	-22.49	to	-15.05	22.59
NO_x	144	0.33	0.17	to	0.49	0.98

TABLE 6-14

VARIANCE ANALYSIS RESULTS[a] - STABILIZED MINUS GREEN DIFFERENCES

	HC	CO	NO_x
Between Makes in Same City			
Houston	-	-	-
Los Angeles	-	-	-
Detroit	-	-	-
Denver	-	*	-
Houston, L.A., Detroit	-	-	*
4 Cities	-	-	*
Between Manufacturers in Same City			
Houston	-	-	-
Los Angeles	-	-	-
Detroit	-	-	-
Denver	-	*	-
Houston., L.A., Detroit	-	-	**
4 Cities	-	*	-
Between Cities (all 4) For Same Make			
American Motors	-	**	*
Chrysler	-	-	-
Ford	**	**	-
Chevrolet	-	**	-
Pontiac	-	-	-
Oldsmobile	*	**	-
Buick	-	*	*
Cadillac	-	-	-
General Motors	-	**	-
Volkswagen	*	**	-
All Vehicles	-	**	**
Between Cities (Excluding Denver) for Same Make			
American Motors	-	*	-
Chrysler	-	-	-
Ford	**	-	-
Chevrolet	-	-	-
Pontiac	-	-	-
Oldsmobile	-	-	-
Buick	-	-	-
Cadillac	-	-	-
General Motors	-	-	-
Volkswagen	-	-	-
All Vehicles	**	-	**

a. Chances that different makes or cities belong to same population are indicated as follows:

- \- Greater than 5 in 100. Differences not significant.
- * Between 1 and 5 in 100. Differences significant.
- ** Less than 1 in 100. Differences highly significant.

6.3.2 Differences Based on Clayton KEY MODE Tests

KEY MODE results obtained in tests on the Green Engine and on the Stabilized Engine are collected in Appendix Tables E-1 to E-4. Average differences between these two sets of results (found in Appendix Tables F-1 to F-6) are summarized and compared with the corresponding 7-mode Composite differences below. Averages by makes and manufacturers for the four cities and for the cities excluding Denver are summarized in Tables 6-15 and 6-16. Averages for all vehicles by cities are given in Table 6-17. KEY MODE test results and 7-mode composite results are both expressed in terms of concentration.

Examination of the results and previous experience suggest that the KEY MODE test as a whole (considering all three modes) would not correlate well enough to predict the 7-mode composite test data although in general the results agree directionally. In the work on the 1970 model vehicles for this contract, an unsuccessful attempt was made to predict 7-mode composite concentration levels from a linear function of KEY MODE levels at idle, low speed cruise and high speed cruise using data on all of the 2,100 vehicles tested. The standard errors of fit (110 PPM HC, 0.51 percent CO and 372 PPM NO_x) were so large that the equations were useless for prediction.

There was also some evidence that there are considerable differences in the standard error of fit for the various manufacturers so that the equations could not be used as universal predictors. In the analysis, only the emission levels of stabilized engines were being examined. It is highly doubtful that an analysis involving differences between levels of Stablized and Green engines would have a better outcome.

It is perhaps better to compare results of individual modes of the KEY MODE test with results of the 7-mode test. Referring to the 3-cities and 4-cities averages in Table 6-17 it can be seen that HC differences obtained in the idle and low cruise modes are in fairly good agreement with 7-mode results, while differences obtained in the high cruise mode are smaller. For CO differences, those obtained in the low cruise mode are of about the same magnitude as the 7-mode results. However, idle mode differences are considerably larger, while high cruise differences tend to be smaller. For NO_x, the low cruise mode again gives the best agreement with 7-mode results. Idle mode differences are smaller and high cruise differences substantially larger. It can be said that in general the low cruise mode of the KEY MODE test best reflects the results of the 7-mode test.

TABLE 6-15. DIFFERENCES BETWEEN STABILIZED ENGINE AND GREEN ENGINE RESULTS

KEY MODE Data[a] - Make Averages, Including Denver Data

Make	HYDROCARBONS, PPM				CARBON MONOXIDE, Percent				NITROGEN OXIDE (NO_x), PPM[b]			
	7-Mode Comp.	KEY MODE Idle	KEY MODE Low Cruise	KEY MODE High Cruise	7-Mode Comp.	KEY MODE Idle	KEY MODE Low Cruise	KEY MODE High Cruise	7-Mode Comp.	KEY MODE Idle	KEY MODE Low Cruise	KEY MODE High Cruise
AMC	23	28	37	23	-0.43	0.86	-0.20	-0.73	125	-94	163	505
Chrysler	23	12	41	25	-0.08	0.20	-0.29	-0.47	121	2	265	603
Ford	48	40	51	34	0.09	0.71	-0.01	-0.20	74	-24	127	426
Chevrolet	114	90	85	40	-0.41	0.18	-0.53	-0.39	108	- 9	340	501
Pontiac	36	71	36	27	-0.20	-0.40	-0.33	-0.26	-17	- 1	-88	534
Oldsmobile	35	61	36	25	-0.39	0.09	-0.57	-0.47	236	-70	415	778
Buick	39	100	38	27	-0.10	0.50	0.01	-0.34	13	-22	-19	455
Cadillac	19	17	21	8	-0.06	-0.53	0.33	0.05	83	- 9	-50	400
GMC	80	83	63	34	-0.32	0.14	-0.39	-0.64	95	-18	232	514
Volkswagen	23	-4	3	17	-0.16	-0.56	-0.11	-0.58	-7	14	47	131
All	51	46	47	29	-0.18	0.27	-0.23	-0.51	85	-20	185	463

[a] The corresponding 7-mode composite data are shown for comparisons.

[b] Not corrected for humidity

TABLE 6-16. DIFFERENCES BETWEEN STABILIZED ENGINE AND GREEN ENGINE RESULTS

KEY MODE Data[a] - Make Averages, Excluding Denver Data

Make	HYDROCARBONS, PPM				CARBON MONOXIDE, Percent				NITROGEN OXIDE (NO_x), PPM[b]			
	7-Mode Comp.	KEY MODE Idle	KEY MODE Low Cruise	KEY MODE High Cruise	7-Mode Comp.	KEY MODE Idle	KEY MODE Low Cruise	KEY MODE High Cruise	7-Mode Comp.	KEY MODE Idle	KEY MODE Low Cruise	KEY MODE High Cruise
AMC	44	29	23	10	0.21	1.49	-0.12	-0.11	286	-50	207	370
Chrysler	29	-1	40	25	0.20	0.46	0.01	-0.12	137	- 1	167	620
Ford	62	67	54	31	0.40	1.10	0.30	0.11	91	-30	78	420
Chevrolet	91	88	97	35	0.21	0.96	0.09	0.11	134	-20	288	426
Pontiac	37	73	32	34	0.11	0.28	-0.24	-0.06	-43	50	-164	325
Oldsmobile	62	93	42	30	0.06	0.74	0.10	0.04	215	-89	201	609
Buick	54	102	38	31	0.27	0.90	0.11	0.02	53	- 7	- 36	375
Cadillac	14	3	10	8	0.04	0.17	0.15	0.10	190	-30	-266	559
GMC	72	87	70	32	0.19	0.83	0.06	0.07	116	-21	156	437
Volkswagen	54	64	36	27	0.47	0.87	0.46	0.17	-133	-16	-312	-191
All	58	59	53	29	0.27	0.88	0.14	0.04	104	-19	100	406

[a] The corresponding 7-mode composite data are shown for comparisons.

[b] Not corrected for humidity

TABLE 6-17

DIFFERENCES BETWEEN STABILIZED ENGINE AND GREEN ENGINE RESULTS
KEY MODE Data[a]- City Averages, All Vehicles

	7-Mode Composite	KEY MODE		
		Idle	Low Cruise	High Cruise
HYDROCARBONS, PPM				
Houston	80	90	54	39
Los Angeles	35	30	26	14
Detroit	81	82	117	48
Denver	41	26	37	30
3-Cities	58	59	53	29
4-Cities	51	46	47	29
CARBON MONOXIDE, Percent				
Houston	0.36	1.16	0.35	0.10
Los Angeles	0.28	0.88	0.04	0.02
Detroit	0.14	0.52	0.07	0.01
Denver	-0.88	-0.69	-0.81	-1.38
3-Cities	0.27	0.88	0.14	0.04
4-Cities	-0.18	0.27	-0.23	-0.51
NITROGEN OXIDE (NO_x), PPM				
Houston	153	-18	33	220
Los Angeles	60	-15	161	475
Detroit	141	-27	48	495
Denver	57	-22	317	552
3-Cities	104	-19	100	406
4-Cities	85	-20	184	463

a. The corresponding 7-mode Composite Data are shown for comparisons.

6.4 EFFECT OF ENGINE IDLE ADJUSTMENTS ON EMISSION LEVELS

In addition to the Federal 7-mode Cold Start test and the Clayton KEY MODE test, measurements of basic timing, dwell, idle RPM, and CO percent were made, both for the green engine condition and the stabilized condition. As part of the emission check for the stabilized engine, these adjustments were then reset to specifications and a second KEY MODE test was performed followed by three additional hot cycles measuring HC, CO, CO_2, and NO_x on the last two cycles. The additional emission tests were performed whether or not it was necessary or possible to make significant corrections in the idle adjustments.

The effect of idle maladjustments on the emission levels of the vehicles is indicated by comparing hot cycle test data before and after adjustment and KEY MODE data before and after adjustment. Emission concentration data must be used instead of mass data in order to relate KEY MODE results to Hot Cycle results. The raw data were analyzed to determine means and standard deviations for these effects. Detailed tables for the city-make combinations etc., are presented in Appendix G for the hot cycle data and in Appendix H for the KEY MODE data. Table 6-18 summarizes these data.

Correction of idle maladjustments after the first 4,000 to 7,000 miles of operation had little overall, total-fleet beneficial effect, as shown in Table 6-18. It should be remembered, however, that only a fraction of the fleet (about 60%) was adjusted. On the remainder no adjustments were necessary, or it was not possible to make an adjustment because of idle-limiter restrictions. In those instances where adjustments were made, HC and CO were generally decreased and NO_x increased.

In the Hot Cycle tests, the CO reduction appears to be more significant than the changes in HC (small average decrease, highly variable among cities), or the small changes in NOx. In the KEY MODE tests, the data obtained in the Low Cruise mode (about 35 MPH) gives best agreement with Hot Cycle data.

As in previous analyses of city effects, the all-city averages tend to be distorted when Denver is included.

TABLE 6-18

CHANGES IN TOTAL FLEET EMISSION LEVELS OBTAINED WITH IDLE ADJUSTMENTS

	Hot Cycle Data	KEY MODE		
		Idle	Low Cruise	High Cruise
	HC, PPM			
Houston	-42	-100	-21	-10
Los Angeles	0	- 8	4	10
Detroit	-18	- 46	-68	- 6
Denver	- 1	10	16	21
Excluding Denver	-15	- 41	-19	1
All Cities	- 9	- 20	- 5	9
	CO, Percent			
Houston	-0.59	-2.01	-0.34	-0.16
Los Angeles	-0.16	-0.67	-0.02	0.02
Detroit	-0.40	-2.11	-0.17	-0.13
Denver	0.06	-0.07	0.03	0.15
Excluding Denver	-0.33	-1.35	-0.13	-0.06
All Cities	-0.17	-0.84	-0.07	0.02
	NO_x, PPM			
Houston	29	18	-13	-59
Los Angeles	19	12	-24	10
Detroit	58	72	47	-53
Denver	-45	-12	-51	-70
Excluding Denver	30	27	- 5	-23
All Cities	0	11	-24	-42

6.5 RECOMMENDATIONS FOR ADDITIONAL ANALYSES

Statistical analyses performed on the data in this report are based on normal-distribution theory. It is possible, of course, that the data are not normally distributed, and that some other kind of distribution could be found to better represent the data. An analysis based on a different kind of distribution was not required in the contract, but warrants consideration for further study by the contractor or EPA. Data from surveillance programs similar to this one indicate that hydrocarbon, carbon monoxide, and perhaps nitrogen oxide concentrations may be log-normally distributed rather than normally distributed.

LIST OF APPENDIXES

APPENDIX A:	Test Vehicle Information Tables
APPENDIX B:	Vehicle Emission Test Data Tables
APPENDIX C:	Vehicle Cold Start Statistics
APPENDIX D:	Variance Analysis Data
APPENDIX E:	KEY MODE Test Data
APPENDIX F:	KEY MODE Statistics - Green Versus Stabilized Engine
APPENDIX G:	Vehicle Hot Start Statistics - Before and After Idle Adjustement - Phase II
APPENDIX H:	KEY MODE Test Statistics - Before and After Idle Adjustment - Phase II

APPENDIX A

TEST VEHICLE INFORMATION TABLES

1. Legend and Interpretation of Test Vehicle Information Tables

2. Tables:
   - A-1 Houston
   - A-2 Los Angeles
   - A-3 Detroit
   - A-4 Denver

LEGEND AND INTERPRETATION OF TEST
VEHICLE INFORMATION TABLES

Key Words	Description
CAR NO	This is the number used to identify each vehicle and the location where test was conducted. The first number denotes the location. 2 = Houston, Texas 3 = Los Angeles, California 4 = Detroit, Michigan 5 - Denver, Colorado The last five numbers denote the identification number for each vehicle.
RUN NO	This is a sequential number assigned to each test. The first number denotes the phase of testing for all cities. 1 = Phase I, 2 = Phase II.
S	This indicates whether a vehicle was tested from a hot start or cold start condition. C = cold start test H = hot start test
T	This indicates whether a vehicle was tested before or after the idle specifications had been reset. B = before setting to manufacturer's specifications A = after setting to manufacturer's specifications
DATE	Date vehicle was tested.
MFG	A code denoting the vehicle displacement class. The letter denotes the manufacturer of test vehicle. A = American Motors Corporation C = Chrysler Corporation F = Ford Motor Company G = General Motors Corporation V = Volkswagen See accompanying table for description of displacement classes.

LEGEND AND INTERPRETATION OF TEST
VEHICLE INFORMATION TABLES (CONT'D)

Key Words	Description
YR	The model year of test vehicle.
MAKE	The make of test vehicle.
MODEL	The model of the test vehicle.
ODOMR	This indicates the odometer reading of vehicle at the beginning of test.
CID	Represents the cubic inch displacement of test vehicle.
CYL	The number of cylinders in the test vehicle.
TRN	Type of transmission in test vehicle. 0 = Automatic 3,4,5, = Manual, with the number of gears indicated.
A/C	Denotes if vehicle equipped with an air conditioning system. 0 = without air conditioning 1 = with air conditioning
FSO	Fuel shut-off. 0 = no fuel shut-off 1 = fuel shut-off device
BBL	Represents number of carburetor venturis. (Note: A "O" represents fuel injection.)
PCV	Represents positive crankcase ventilation system. 0 = without PCV 1 = with PCV
EXH	Represents type of exhaust control device. 1 = engine modification 2 = air pump

LEGEND AND INTERPRETATION OF TEST
VEHICLE INFORMATION TABLES (CONT'D)

Key Words	Description
EVP	Denotes if vehicle is equipped with evaporative emissions control. 0 = without control 1 = with control
DB	Represents dry bulb temperature before test, °F.
WB	Represents wet bulb temperature before test, °F.
BAROM	Represents barometer reading before test, in. Hg.
INER	Represents inertia loading of vehicle.
HP	Horsepower setting of dynamometer.

NATIONAL SURVEILLANCE PROGRAM
1971 MODELS
DESCRIPTION OF DISPLACEMENT CLASSES

Mfg. Class	CID	Carb BBL	Trans	Type Models
AMERICAN MOTORS				
A01	232	1V	A & M	(Gremlin, Hornet, Matador,
A04	258	1V	only	Javelin, Ambassador)
A05	304	2V	A only	
A07	360	2V	A only	
A09	360	4V	A only	
CHRYSLER CORPORATION				
C10	198	1V	A only	
C11	225	1V	A & M	
C12	318	2V	A only	(Valiant, Dart, Barracuda,
C15	340	4V	A & M	Satellite, Plymouth, Chrysler
C16	360	2V	A only	Charger, Dodge)
C13	383	2V	A only	
C18	383	HP4V	A & M	
C14	440	4V	A only	
C19	440	HP4V	A only	
FORD MOTOR COMPANY				
F28	98	1V	M only	(Pinto)
F29	122	2V	A & M	
F30	170	1V	M only	(Maverick)
F32	200	1V	A only	(Maverick only)
F37	240	1V	M only	(F-100 Truck, Econoline)
F38	250	1V	A & M	
F33	302	2V	A & M	(Bronco, Comet, Mustang,
F34	351	2V	A only	Fairlane, Ford)
F40	351	4V	A only	
F41	360	2V	A & M	(F-100 Truck)
F35	390	2V	A only	
F43	400	2V	A only	
F45	429	2V	A only	(Ford, Fairlane,
F36	429	4V	A only	Thunderbird)
F47	460	4V	A only	(Lincoln)

DESCRIPTION OF DISPLACEMENT CLASSES (Cont'd)

Mfg. Class	CID	Carb BBL	Trans	Type Models
GENERAL MOTORS CORPORATION				
CHEVROLET				
G49	140	1V	A & M	
G50	140	2V	M only	(Vega, Nova, Chevelle,
G52	250	1V	A & M	Camaro, Chevrolet,
G56	292	1V	M only	Lt. Duty Truck)
G53	307	2V	A & M	
G57	350	2V	A & M	
G55	350	4V	A & M	
G59	400	2V	A only	
G60	402	4V	A & M	
G64	454	4V	A only	
PONTIAC				
G61	350	2V	A only	(Lemans, Firebird,
G62	400	2V	A only	Catalina, Bonneville,
G68	400	4V	A only	Grandville)
G69	455	2V	A only	
G70	455	4V	A & M	
OLDSMOBILE				
G66	350	2V	A only	(F-85, Delta 88, Ninety-Eight)
G72	350	4V	A only	
G73	455	2V	A only	
G67	455	4V	A only	
BUICK				
G74	350	2V	A only	(Skylark, LeSabre,
G71	350	4V	A only	Electra, Riviera)
G75	455	4V	A only	
CADILLAC				
G76	472	4V	A only	(with air pump)
G78	500	4V	A only	(Eldorado)
VOLKSWAGEN				
V82	97	FI	A & M	(Fastback, Squareback)
V83	97	1V	A & M	(Beetle, Bus)
V84	103	FI	M only	(Porsche)

TABLE A-1

Houston

1971 VEHICLE INFORMATION

HOUSTON CAR NO	RUN NO	ST	--DATE--	MFG	YR	MAKE	MODEL	ODOMR	CID	CYL	TRN	A/C	FSO	BBL	PCV	EXH	EVP	DB	WB	BAROM	INER	HP
210007	100957	CB	01/21/71	A	1	71	AMER	HORNE	6	232	6	3	1	0	1	1	1	1	73	66	30.50	3000	9
	202246	CB	01/18/72					6959											70	63	30.55		
	202246	HA																					
210016	100964	CB	01/22/71	A	1	71	AMER	GREML	10	232	6	0	0	0	1	1	1	1	70	62	30.40	3000	9
	201451	CB	04/22/71					6537											78	75	30.00		
	201451	HA																					
210080	101036	CB	02/03/71	A	1	71	AMER	GREML	46	232	6	3	1	0	1	1	1	1	70	62	30.50	3000	9
	202122	CB	10/21/71					5289											79	69	30.63		
	202122	HA																					
210157	101169	CB	02/25/71	A	1	71	AMER	HORNE	11	232	6	0	0	0	1	1	1	1	72	68	30.15	3000	9
	202158	CB	11/10/71					6630											73	66	30.71		
	202158	HA																					
210162	101177	CB	02/26/71	A	1	71	AMER	HORNE	6	232	6	0	0	0	1	1	1	1	79	70	30.10	3000	9
	202238	CB	01/13/72					6718											70	62	30.17		
	202238	HA																					
210265	101497	CB	04/30/71	A	1	71	AMER	GREML	6	232	6	0	0	0	1	1	1	1	74	69	30.40	3000	9
	201946	CB	08/31/71					4676											85	82	30.46		
	201946	HA																					
210266	101498	CB	04/30/71	A	1	71	AMER	GREML	12	232	6	0	0	0	1	1	1	1	75	70	30.40	3000	9
	201948	CB	08/31/71					4842											86	84	30.46		
	201948	HA																					
210034	100987	CB	01/26/71	A	7	71	AMER	AMBAS	6	360	8	0	1	0	2	1	1	1	78	64	30.60	4000	10
	202250	CB	01/19/72					4479											72	68	30.50		
	202250	HA																					
210042	100995	CB	01/27/71	A	7	71	AMER	MATAD	11	360	8	0	1	0	2	1	1	1	75	62	30.80	4000	9
	202141	CB	11/03/71					4724											68	62	30.70		
	202141	HA																					
210002	100950	CB	01/21/71	C	11	71	DODG	DEMON	33	225	6	0	0	0	1	1	1	1	68	60	30.60	3500	8
	202109	CB	10/14/71					5189											83	72	30.40		
	202109	HA																					
210084	101040	CB	02/04/71	C	11	71	DODG	DART	11	225	6	0	1	0	1	1	1	1	69	60	30.20	3500	8
	202199	CB	12/07/71					4008											70	63	30.38		
	202199	HA																					
210092	101050	CB	02/05/71	C	11	71	DODG	DART	10	225	6	0	1	0	1	1	1	1	68	59	30.45	3500	8
	201994	CB	09/15/71					5716											79	72	30.10		
	201994	HA																					
210015	100939	CB	01/18/71	C	12	71	DODG	CORON	16	318	8	0	1	0	2	1	1	1	76	63	30.30	4000	9
	202229	CB	12/16/71					4630											69	65	30.35		
	202229	HA																					
210040	100993	CB	01/27/71	C	12	71	PLYM	SATEL	46	318	8	0	1	0	2	1	1	1	70	61	30.85	4000	9
	202244	CB	01/18/72					4238											70	63	30.55		
	202244	HA																					

HOUSTON

1971 VEHICLE INFORMATION

CAR NO	RUN NO	ST	--DATE--	MFG YR	MAKE	MODEL	ODOMR	CID	CYL	TRN	A/C	FSO	BBL	PCV	EXH	EVP	DB	WB	BAROM	INER	HP
210134	101142	CB	02/18/71	C13	71	DODG	MONAC	8	383	8	0	1	0	2	1	1	1	69	61	30.50	4500	11
	202180	CB	11/23/71					6907										71	63	30.61		
	202180	MA																				
210053	101006	CB	01/29/71	C15	71	PLYM	DUSTE	19	340	8	0	1	0	4	1	1	1	68	60	30.55	3500	8
	202174	CB	11/18/71					6998										74	67	30.35		
	202174	MA																				
210048	101001	CB	01/28/71	C18	71	PLYM	ROADR	22	383	8	0	1	0	4	1	1	1	72	64	30.70	4500	9
	202242	CB	01/15/72					2175										69	57	31.25		
	202242	MA																				
210072	101027	CB	02/02/71	C18	71	PLYM	ROADR	21	383	8	0	1	0	4	1	1	1	68	59	30.80	4500	9
	202152	CB	11/05/71					4904										70	61	30.60		
	202152	MA																				
210274	101805	CB	07/30/71	C18	71	DODG	CHARG	4	383	8	0	1	0	4	1	1	1	82	79	30.45	4500	9
	202185	CB	12/02/71					5303										70	64	30.58		
	202185	MA																				
210246	101368	CB	04/06/71	F28	71	FORD	PINTO	19	98	4	4	1	0	1	1	1	1	73	62	30.90	2250	6
	201940	CB	08/27/71					5943										84	78	30.44		
	201940	MA																				
210169	101223	CB	03/05/71	F29	71	FORD	PINTO	40	122	4	0	0	0	2	1	1	1	68	61	30.45	2500	6
	202236	CB	12/17/71					4286										69	61	30.68		
	202236	MA																				
210173	101236	CB	03/08/71	F29	71	FORD	PINTO	40	122	4	0	0	0	2	1	1	1	70	61	30.75	2500	6
	202160	CB	11/10/71					4310										68	61	30.85		
	202160	MA																				
210247	101369	CB	04/06/71	F29	71	FORD	PINTO	52	122	4	4	1	0	2	1	1	1	73	63	30.90	2250	6
	201938	CB	08/27/71					6926										79	72	30.42		
	201938	MA																				
210279	101817	CB	08/03/71	F29	71	FORD	PINTO	15	122	4	0	1	0	2	1	1	1	80	76	30.40	2500	6
	202139	CB	11/02/71					4321										74	72	30.40		
	202139	MA																				
210218	101295	CB	03/21/71	F32	71	FORD	MAVER	24	200	6	0	1	0	1	1	1	1	71	68	30.45	3000	9
	202107	CB	10/14/71					5573										80	71	30.43		
	202107	MA																				
210174	101237	CB	03/08/71	F33	71	FORD	MUSTA	16	302	8	0	1	0	2	1	1	1	70	61	30.75	3500	9
	202098	CB	10/13/71					5087										75	69	30.45		
	202098	MA																				
210175	101238	CB	03/08/71	F33	71	FORD	MUSTA	37	302	8	0	1	0	2	1	1	1	72	63	30.75	3500	9
	202076	CB	10/07/71					4010										72	68	30.53		
	202076	MA																				
210204	101280	CB	03/18/71	F33	71	FORD	TORIN	16	302	8	0	1	0	2	1	1	1	70	65	30.40	3500	10
	202000	CB	09/15/71					5017										85	81	30.18		
	202000	MA																				

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HOUSTON CAR NO	RUN NO	ST	--DATE--	MFG YR	MAKE	MODEL	DOOMR	CID	CYL	TRN	A/C	FSO	BBL	PCV	EXH	EVP	DB	WB	BAROM	INER	HP
210207	101283	CB	03/18/71	F33	71	FORD	MUSTA	21	302	8	0	1	0	2	1	1	1	72	66	30.40	3500	9
	202119	CB	10/20/71					4480														
	202119	HA																80	75	30.50		
210208	101284	CB	03/18/71	F33	71	FORD	MUSTA	25	302	8	0	1	0	2	1	1	1	72	66	30.40	3500	9
	202017	CB	09/21/71					4502														
	202017	HA																69	64	30.55		
210170	101225	CB	03/05/71	F34	71	FORD	LTD	15	351	8	0	1	0	2	1	1	1	70	62	30.45	4500	11
	201942	CB	08/27/71					5857														
	201942	HA																86	82	30.44		
210213	101290	CB	03/19/71	F41	71	FORD	LDTRU	24	360	8	3	0	0	2	1	1	1	69	61	30.80	4000	12
	202213	CB	12/14/71					4052														
	202213	HA																71	69	30.23		
210179	101245	CB	03/09/71	F43	71	FORD	GALAX	18	400	8	0	1	0	2	1	1	1	71	64	30.50	4500	11
	202197	CB	12/03/71					5475														
	202197	HA																69	62	30.54		
210143	101155	CB	02/19/71	G49	71	CHEV	VEGA	6	140	4	0	1	0	1	1	1	1	77	70	30.35	2500	5
	202137	CB	10/29/71					4176														
	202137	HA																76	72	30.55		
210264	101493	CB	04/30/71	G50	71	CHEV	VEGA	13	140	4	4	1	0	2	1	1	1	70	66	30.25	2500	5
	202039	CB	09/25/71					4273														
	202039	HA																78	72	30.48		
210138	101147	CB	02/18/71	G52	71	CHEV	LDTRU	3	250	6	3	1	0	1	1	1	1	77	69	30.40	4000	12
	202115	CB	10/19/71					4267														
	202115	HA																76	72	30.37		
210139	101148	CB	02/18/71	G52	71	CHEV	LDTRU	4	250	6	3	1	0	1	1	1	0	78	69	30.40	4000	12
	202078	CB	10/07/71					4437														
	202078	HA																82	73	30.56		
210096	101060	CB	02/08/71	G53	71	CHEV	MALIB	2	307	8	0	1	0	2	1	1	1	69	61	30.70	3500	10
	202240	CB	01/15/72					5567														
	202240	HA																70	58	30.62		
210107	101100	CB	02/11/71	G53	71	CHEV	CHEVE	2	307	8	0	1	0	2	1	1	1	73	63	30.25	3500	10
	202248	CB	01/18/72					4298														
	202248	HA																73	68	30.53		
210123	101127	CB	02/16/71	G53	71	CHEV	CHEVE	5	307	8	0	1	0	2	1	1	1	77	68	30.45	3500	10
	202060	CB	10/01/71					5957														
	202060	HA																77	76	30.37		
210203	101279	CB	03/17/71	G53	71	CHEV	NOVA	16	307	8	3	1	0	2	1	1	1	77	68	30.70	3300	9
	201978	CB	09/10/71					7089														
	201978	HA																80	72	29.95		
210148	101160	CB	02/24/71	G55	71	CHEV	LDTRU	3	350	8	3	0	0	4	1	1	1	70	60	30.50	4500	12
	202170	CB	11/21/71					6719														
	202170	HA																76	69	30.69		

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HOUSTON CAR NO	RUN NO	ST	--DATE--	MFG	YR	MAKE	MODEL	ODOMP	CID	CYL	TRN	A/C	FSO	BBL	PCV	EXH	EVP	DB	WB	BAROM	INER	HP
210005	100954	CB	01/21/71	G57	71	CHEV	CHEVR	6	350	8	0	1	0	2	1	1	1	68	61	30.60	4500	11
	201333	CB	03/30/71					4170										74	63	30.70		
	201333	HA																				
210149	101161	CB	02/24/71	G57	71	CHEV	CAMAR	7	350	8	0	1	0	2	1	1	1	77	68	30.50	3500	8
	202103	CB	10/14/71					4999										70	67	30.42		
	202103	HA																				
210212	101289	CB	03/18/71	G59	71	CHEV	IMPAL	9	400	8	0	1	0	2	1	1	1	72	68	30.30	4500	11
	202166	CB	11/12/71					5455										69	64	30.70		
	202166	HA																				
210241	101347	CB	03/31/71	G59	71	CHEV	CHEVR	16	400	8	0	1	0	2	1	1	1	79	70	30.50	4500	11
	202178	CB	11/23/71					4368										69	61	30.50		
	202178	HA																				
210254	101382	CB	04/08/71	G66	71	OLDS	EIGHT	6	350	8	0	1	0	2	1	1	1	69	62	30.70	4500	11
	202041	CB	09/27/71					5570										80	78	30.45		
	202041	HA																				
210231	101321	CB	03/26/71	G67	71	OLDS	NINET	14	455	8	0	1	0	4	1	1	1	71	61	30.60	5000	11
	202129	CB	10/27/71					6254										77	70	30.37		
	202129	HA																				
210234	101327	CB	03/29/71	G67	71	OLDS	NINET	9	455	8	0	1	0	4	1	1	1	74	65	30.55	5000	11
	201950	CB	09/01/71					4982										78	75	30.40		
	201950	HA																				
210238	101343	CB	03/31/71	G67	71	OLDS	NINET	14	455	8	0	1	0	4	1	1	1	73	66	30.50	5000	11
	201972	CB	09/09/71					4826										82	75	30.15		
	201972	HA																				
210281	101837	CB	08/06/71	G72	71	OLDS	CUTLA	6	350	8	0	1	0	4	1	1	1	80	75	30.50	4000	10
	202252	CB	01/21/72					4966										70	68	30.42		
	202252	HA																				
210102	101077	CB	02/10/71	G71	71	BUIC	LESAB	5	350	8	0	1	0	4	1	1	1	69	62	30.90	5000	11
	201982	CB	09/10/71					6891										78	78	30.95		
	201982	HA																				
210101	101076	CB	02/10/71	G74	71	BUIC	SKYLA	4	350	8	0	1	0	2	1	1	1	68	60	30.90	4000	10
	202143	CB	11/03/71					5409										74	64	30.73		
	202143	HA																				
210122	101126	CB	02/16/71	G75	71	BUIC	ELECT	4	455	8	0	1	0	4	1	1	1	77	68	30.50	5000	11
	201977	CB	09/10/71					5566										78	72	29.95		
	201977	HA																				
210127	101132	CB	02/17/71	G75	71	BUIC	ELECT	6	455	8	0	1	0	4	1	1	1	69	62	30.60	5000	11
	202019	CB	09/21/71					5993										72	68	30.59		
	202019	HA																				
210136	101144	CB	02/18/71	G76	71	CADI	DEVIL	9	472	8	0	1	0	4	1	2	1	70	62	30.50	5500	11
	201507	CB	05/04/71					4126										71	67	30.50		
	201507	HA																				

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HOUSTON CAR NO	RUN NO	ST	--DATE--	MFG	YR	MAKE	MODEL	ODOMR	CID	CYL	TRN	A/C	FSO	BBL	PCV	EXH	EVP	DB	WB	BAROM	INER	HP
210099	101070	CB	02/09/71	V82	71	VOLK	SQBK	18	97	4	0	1	1	0	1	1	1	70	61	30.95	2500	7
	202113	CB	10/15/71					4391										72	64	30.50		
	202113	HA																				
210153	101165	CB	02/25/71	V82	71	VOLK	FTBK	16	97	4	4	1	1	0	1	1	1	71	64	30.30	2500	7
	202081	CB	10/07/71					6183										86	74	30.60		
	202081	HA																				
210167	101221	CB	03/04/71	V82	71	VOLK	SQBK	12	97	4	4	0	1	0	1	1	1	71	62	30.80	2500	7
	201944	CB	08/31/71					4879										80	76	30.45		
	201944	HA																				
210010	100960	CB	01/21/71	V83	71	VOLK	BEETL	12	97	4	4	0	0	1	1	1	1	73	65	30.40	2250	6
	201970	CB	09/09/71					6673										80	73	30.15		
	201970	HA																				
210105	101080	CB	02/10/71	V83	71	VOLK	BEETL	9	97	4	4	0	0	1	1	1	1	70	62	30.90	2250	6
	201976	CB	09/09/71					6503										80	76	30.15		
	201976	HA																				
210111	101109	CB	02/12/71	V83	71	VOLK	BEETL	8	97	4	4	0	0	1	1	1	1	70	62	30.45	2250	6
	202030	CB	09/23/71					4270										76	74	30.53		
	202030	HA																				
210119	101123	CB	02/16/71	V83	71	VOLK	BEETL	13	97	4	4	1	0	1	1	1	1	71	64	30.50	2250	6
	201580	CB	05/19/71					5165										70	66	30.35		
	201580	HA																				
210219	101296	CB	03/22/71	V83	71	VOLK	BEETL	6	97	4	0	0	0	1	1	1	1	71	68	30.45	2250	6
	202029	CB	09/23/71					5558										73	72	30.50		
	202029	HA																				
210270	101768	CB	07/15/71	V83	71	VOLK	BEETL	12	97	4	3	0	0	1	1	1	1	81	75	30.40	2250	6
	202168	CB	11/12/71					5612										74	66	30.70		
	202168	HA																				

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NO	RUN NO	ST	--DATE--	MFG YR	MAKE	MODEL	ODOMR	CID	CYL	TRN	A/C	FSG	BBL	PCV	EXH	EVP	DB	WB	BAROM	INER	HP
10012	100273	CB	12/16/70	A	1	71 AMER HORNE	36	232	6	0	0	0	1	1	1	1	69	59	30.06	3000	9
	203777	CB	10/06/71				4039														
	203777	HA															83	62	30.14		
310096	101269	CB	03/10/71	A	1	71 AMER HORNE	31	232	6	0	0	0	1	1	1	1	69	64	30.11	3000	9
	204028	CB	10/19/71				4630														
	204028	HA															63	54	30.35		
310098	101601	CB	04/01/71	A	1	71 AMER HORNE	43	232	6	0	0	0	1	1	1	1	83	60	30.09	3000	9
	204054	CB	10/20/71				5654														
	204054	HA															64	53	30.28		
310290	101218	CB	03/06/71	A	1	71 AMER HORNE	13	232	6	0	0	0	1	1	1	1	70	66	30.13	3000	9
	204280	CB	11/28/71				6455														
	204280	HA															75	62	30.12		
310230	100948	CB	02/19/71	A	4	71 AMER GREML	29	258	6	0	0	0	1	1	1	1	75	59	30.12	3000	9
	201711	CB	04/14/71				4345														
	201711	HA															69	60	29.90		
310206	100946	CB	02/19/71	A	5	71 AMER HORNE	56	304	8	0	1	0	2	1	1	1	73	59	30.15	3000	9
	204346	CB	12/04/71				6244														
	204346	HA															72	60	30.08		
310208	100914	CB	02/18/71	A	5	71 AMER HORNE	17	304	8	0	1	0	2	1	1	1	68	58	29.96	3000	9
	204306	CB	12/01/71				5908														
	204306	HA															72	62	30.20		
310009	100233	CB	12/11/70	A	9	71 AMER AMBAS	10	360	8	0	1	0	4	1	1	1	70	53	30.13	4000	10
	202817	CB	06/30/71				6065														
	202817	HA															68	62	29.93		
310220	100862	CB	02/16/71	C11	71	DODG DEMON	11	225	6	0	1	0	1	1	1	1	70	60	29.89	3500	8
	204394	CB	12/11/71				6267														
	204394	HA															71	51	30.38		
310360	101539	CB	03/27/71	C11	71	PLYM VALIA	48	225	6	0	0	0	1	1	1	1	69	59	30.05	3000	8
	204175	CB	11/16/71				4741														
	204175	HA															71	60	30.29		
310021	100529	CB	01/15/71	C12	71	PLYM SATEL	29	318	8	0	1	0	2	1	1	1	68	58	30.28	4000	9
	203564	CB	09/29/71				4656														
	203564	HA															68	57	30.01		
310026	100490	CB	01/12/71	C12	71	PLYM SATEL	18	318	8	0	0	0	2	1	1	1	72	65	29.99	4000	9
	202037	CB	05/03/71				6579														
	202037	HA															70	60	30.02		
310027	100499	CB	01/13/71	C12	71	PLYM FURY	24	318	8	0	1	0	2	1	1	1	67	60	30.10	4500	11
	202370	CB	05/26/71				6334														
	202370	HA															69	[illegible]	29.87		
310028	100521	CB	01/14/71	C12	71	PLYM FURY	16	318	8	0	1	0	2	1	1	1	68	58	30.30	4500	11
	202588	CB	06/10/71				4902														
	202588	HA															74	62	29.87		

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CAR NO	RUN NO	ST	--DATE--	MFG YR	MAKE	MODEL	ODOMR	CID	CYL	TRN	A/C	PSD	BBL	PCV	EXH	EVP	DB	WB	BAROM	INER	HP
310039	100531	CB	01/15/71	C12	71	PLYM	FURY	35	318	8	0	1	0	2	1	1	1	67	57	30.28	4500	11
	204399	CB	12/14/71					4916										72	53	30.04		
	204399	HA																				
310056	100476	CB	01/09/71	C12	71	DODG	DEMON	57	318	8	0	1	0	2	1	1	1	71	59	30.01	3500	8
	201642	CB	04/06/71					4605										71	60	30.03		
	201642	HA																				
310156	100654	CB	01/30/71	C12	71	DODG	CORON	45	318	8	0	1	0	2	1	1	1	71	61	30.03	4000	9
	202621	CB	06/15/71					6831										72	64	29.78		
	202621	HA																				
310040	100532	CB	01/15/71	C13	71	CHRY	NEWPO	10	383	8	0	1	0	2	1	1	1	68	57	30.28	5000	11
	203119	CB	07/30/71					4112										77	66	29.88		
	203119	HA																				
310041	100519	CB	01/14/71	C13	71	CHRY	NEWPO	30	383	8	0	1	0	2	1	1	1	67	58	30.27	5000	11
	202162	CB	05/11/71					4358										69	61	29.98		
	202162	HA																				
310043	100443	CB	01/07/71	C13	71	CHRY	NEWPO	29	383	8	0	1	0	2	1	1	1	72	58	30.23	5000	11
	202955	CB	07/14/71					6941										71	66	29.80		
	202955	HA																				
310114	100613	CB	01/23/71	C13	71	DODG	CHALL	42	383	8	0	0	0	2	1	1	1	68	61	29.95	4000	9
	202867	CB	07/03/71					6469										82	68	29.86		
	202867	HA																				
310234	101039	CB	02/24/71	C13	71	DODG	CORON	46	383	8	0	1	0	2	1	1	1	68	56	29.99	4500	11
	204068	CB	10/21/71					4520										69	57	30.30		
	204068	HA																				
310051	100445	CB	01/07/71	C14	71	CHRY	NEWYO	22	440	8	0	1	0	4	1	1	1	71	57	30.23	5000	11
	202367	CB	05/26/71					4063										69	60	29.82		
	202367	HA																				
310030	100450	CB	01/07/71	C15	71	PLYM	DUSTE	19	340	8	4	0	0	4	1	1	1	68	56	30.32	3500	8
	202053	CB	05/04/71					5284										69	60	30.00		
	202053	HA																				
310033	100456	CB	01/08/71	C16	71	PLYM	FURY	26	360	8	0	1	0	2	1	1	1	66	56	30.24	4500	11
	201949	CB	04/28/71					6847										70	57	29.90		
	201949	HA																				
310034	100513	CB	01/14/71	C16	71	PLYM	PLYMO	23	360	8	0	1	0	2	1	1	1	68	60	30.25	4500	11
	202161	CB	05/11/71					5865										70	61	29.98		
	202161	HA																				
310035	100488	CB	01/12/71	C16	71	PLYM	FURY	20	360	8	0	1	0	2	1	1	1	68	63	30.00	4500	11
	203354	CB	08/27/71					5993										70	64	29.80		
	203354	HA																				
310036	100457	CB	01/08/71	C16	71	PLYM	FURY	17	360	8	0	1	0	2	1	1	1	69	58	30.24	4500	11
	202713	CB	06/22/71					4084										71	67	29.89		
	202713	HA																				

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CAR NO	RUN NO	ST	--DATE--	MFG YR	MAKE	MODEL	ODOMR	CID	CYL	TRN	A/C	FSO	BBL	PCV	EXH	EVP	DB	WR	BAROM	ENER	HP
310046	100471	CB	01/09/71	C18 71	PLYM	ROADR	52	383	8	0	1	0	4	1	1	1	72	61	30.06	4500	9
	203755	CB	10/05/71				4431										88	62	30.18		
	203755	MA																			
310317	101267	CB	03/10/71	C18 71	DODG	CHARG	10	383	8	0	1	0	4	1	1	1	70	63	30.11	4500	9
	203137	CB	08/03/71				6860										77	70	29.66		
	203137	MA																			
310087	100566	CB	01/19/71	C19 71	CHRY	NEWYO	45	440	8	0	1	0	4	1	1	1	67	62	29.87	5000	11
	204305	CB	12/01/71				4498										71	62	30.20		
	204305	MA																			
310267	101286	CB	03/11/71	F28 71	FORD	PINTO	7	98	4	4	0	0	1	1	1	1	70	58	30.09	2250	6
	204485	CB	01/07/72				6591										70	58	30.06		
	204485	MA																			
310015	100334	CB	12/22/70	F29 71	FORD	PINTO	62	122	4	0	0	0	2	1	1	1	69	54	29.93	2500	6
	201608	CB	04/02/71				4795										70	60	30.15		
	201608	MA																			
310016	100333	CB	12/22/70	F29 71	FORD	PINTO	54	122	4	0	0	0	2	1	1	1	69	54	29.91	2500	6
	201609	CB	04/02/71				5262										69	60	30.15		
	201609	MA																			
310093	101243	CB	03/09/71	F29 71	FORD	PINTO	57	122	4	0	0	0	2	1	1	1	72	62	30.10	2500	6
	204091	CB	10/23/71				6395										79	65	29.92		
	204091	MA																			
310266	101117	CB	03/02/71	F32 71	FORD	MAVER	32	200	6	0	0	0	1	1	1	1	68	48	30.35	3000	9
	202754	CB	06/24/71				5089										74	67	29.85		
	202754	MA																			
310014	100335	CB	12/22/70	F33 71	FORD	MUSTA	61	302	8	0	1	0	2	1	1	1	70	54	29.93	3500	9
	201359	CB	03/18/71				4034										73	62	30.00		
	201359	MA																			
310162	100673	CB	02/02/71	F33 71	FORD	ECONO	47	302	8	0	1	0	2	1	1	1	68	60	30.00	4000	13
	202602	CB	06/11/71				6373										72	62	29.89		
	202602	MA																			
310215	100869	CB	02/16/71	F33 71	FORD	RANCH	58	302	8	0	1	0	2	1	1	1	78	62	29.81	3500	10
	202714	CB	06/22/71				6497										70	67	29.89		
	202714	MA																			
310216	100870	CB	02/16/71	F33 71	FORD	RANCH	57	302	8	0	1	0	2	1	1	1	75	61	29.84	3500	10
	202461	CB	06/03/71				5632										72	60	29.97		
	202461	MA																			
310217	100830	CB	02/13/71	F33 71	FORD	TORIN	56	302	8	0	1	0	2	1	1	1	72	65	30.02	3500	10
	202388	CB	05/27/71				5341										72	61	29.85		
	202388	MA																			
310236	101100	CB	02/27/71	F33 71	FORD	TORIN	21	302	8	0	0	0	2	1	1	1	70	56	30.02	3500	10
	204255	CB	11/25/71				4536										70	59	30.26		
	204255	MA																			

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CAR NO	RUN NO	ST	--DATE--	MFG YR	MAKE	MODEL	ODOMR	CID	CYL	TRN	A/C	FSO	BBL	PCV	EXH	EVP	DB	WB	BAROM	INER	HP
310361	101538	CB	03/27/71	F33	71	MERC	COMET	18	302	8	0	1	0	2	1	1	1	69	60	30.05	3500	9
	203073	CB	07/27/71					6802										76	68	29.88		
	203073	HA																				
310006	100183	CB	12/08/70	F34	71	MERC	COUGA	14	351	8	0	1	0	2	1	1	1	70	60	30.06	3500	9
	201836	CB	04/20/71					6023										70	58	29.98		
	201836	HA																				
310065	100552	CB	01/16/71	F34	71	FORD	GALAX	35	351	8	0	1	0	2	1	1	1	68	60	30.22	4500	11
	201387	CB	04/19/71					4267										70	59	30.08		
	201387	HA																				
310177	100747	CB	02/06/71	F34	71	FORD	CUSTO	58	351	8	0	1	0	2	1	1	1	71	61	29.91	4500	11
	202484	CB	06/04/71					6924										71	59	30.09		
	202484	HA																				
310213	100794	CB	02/11/71	F34	71	FORD	CUSTO	54	351	8	0	1	0	2	1	1	1	72	61	30.11	4500	11
	202462	CB	06/03/71					6056										71	59	29.96		
	202462	HA																				
310214	100868	CB	02/16/71	F34	71	FORD	CUSTO	54	351	8	0	1	0	2	1	1	1	77	62	29.80	4500	11
	202507	CB	06/05/71					5734										71	60	30.03		
	202507	HA																				
310283	101122	CB	03/02/71	F34	71	FORD	CUSTO	51	351	8	0	1	0	2	1	1	1	64	46	30.34	4500	11
	202483	CB	06/04/71					5883										70	59	30.09		
	202483	HA																				
310284	101143	CB	03/03/71	F34	71	FORD	CUSTO	34	351	8	0	1	0	2	1	1	1	68	56	30.38	4500	11
	202506	CB	06/05/71					5614										70	60	30.02		
	202506	HA																				
310285	101144	CB	03/03/71	F34	71	FORD	CUSTO	55	351	8	0	1	0	2	1	1	1	68	56	30.38	4500	11
	202482	CB	06/04/71					5493										71	58	30.08		
	202482	HA																				
310062	100501	CB	01/13/71	F36	71	MERC	MARQU	27	429	8	0	1	0	4	1	1	1	71	65	30.10	5000	11
	201661	CB	04/07/71					5574										70	60	30.13		
	201661	HA																				
310260	101448	CB	03/23/71	F37	71	FORD	ECONO	18	240	6	3	0	0	1	1	1	1	78	59	30.06	4000	13
	204385	CB	12/10/71					6776										69	52	30.32		
	204385	HA																				
310280	101190	CB	03/05/71	F38	71	FORD	MUSTA	19	250	6	3	0	0	1	1	1	1	71	58	29.95	3500	9
	203580	CB	09/21/71					5298										76	64	30.04		
	203580	HA																				
310005	100182	CB	12/08/70	F40	71	MERC	COUGA	10	351	8	0	1	0	4	1	1	1	70	60	30.06	4000	9
	203580	CB	09/30/71					4533										67	60	30.00		
	203580	HA																				
310161	100692	CB	02/03/71	F41	71	FORD	LDTRU	59	360	8	4	1	0	2	1	1	1	68	60	30.02	4000	12
	202348	CB	05/25/71					4679										71	65	29.80		
	202348	HA																				

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CAR NO	RUN NO	ST	--DATE--	MFG YR	MAKE	MODEL	ODOMR	CID	CYL	TRN	A/C	FSO	BBL	PCV	EXH	EVP	DB	WB	BAROM	INER	HP
310091	100594	CB	01/21/71	F43	71	MERC	MARQU	60	400	8	0	1	0	2	1	1	1	68	60	30.04	4500	11
	202254	CB	05/18/71					4132										73	63	29.89		
	202254	HA																				
310160	101038	CB	02/25/71	F43	71	FORD	LTD	18	400	8	0	1	0	2	1	1	1	70	57	29.99	4500	11
	202446	CB	06/02/71					5312										73	59	29.93		
	202446	HA																				
310222	100863	CB	02/16/71	F43	71	FORD	LTD	59	400	8	0	1	0	2	1	1	1	71	59	29.87	4500	11
	202407	CB	05/28/71					5216										70	60	30.01		
	202407	HA																				
310225	100945	CB	02/19/71	F43	71	FORD	GALAX	50	400	8	0	1	0	2	1	1	1	73	59	30.18	4500	11
	202139	CB	05/08/71					6056										68	61	29.96		
	202139	HA																				
310007	100181	CB	12/08/70	F45	71	MERC	MARQU	12	429	8	0	1	0	2	1	1	1	71	60	30.06	5000	11
	202094	CB	05/06/71					6989										71	62	29.64		
	202094	HA																				
310105	100639	CB	01/28/71	G49	71	CHEV	VEGA	14	140	4	0	0	0	1	1	1	1	69	59	30.06	2500	5
	202202	CB	05/13/71					4051										70	62	29.95		
	202202	HA																				
310117	100620	CB	01/26/71	G49	71	CHEV	VEGA	14	140	4	4	0	0	1	1	1	1	68	57	30.18	2500	5
	202220	CB	05/14/71					6644										70	63	29.85		
	202220	HA																				
310064	100518	CB	01/14/71	G52	71	CHEV	NOVA	61	250	6	0	0	0	1	1	1	1	68	60	30.26	3500	9
	201641	CB	04/06/71					5181										70	60	30.03		
	201641	HA																				
310072	100578	CB	01/20/71	G52	71	CHEV	NOVA	21	250	6	3	0	0	1	1	1	1	68	61	29.92	3500	9
	202350	CB	05/25/71					4409										71	66	29.80		
	202350	HA																				
310109	100691	CB	02/03/71	G52	71	CHEV	NOVA	51	250	6	0	0	0	1	1	1	1	69	60	30.01	3500	9
	204453	CB	12/30/71					5271										70	55	30.22		
	204453	HA																				
310228	100942	CB	02/19/71	G53	71	CHEV	CHEVE	54	307	8	0	1	0	2	1	1	1	71	59	30.19	3500	10
	202052	CB	05/04/71					5243										70	60	30.01		
	202052	HA																				
310240	101044	CB	02/25/71	G53	71	CHEV	LDTRU	15	307	8	3	0	0	2	1	1	1	75	59	29.95	4000	12
	202389	CB	05/27/71					4219										73	61	29.87		
	202389	HA																				
310068	100567	CB	01/19/71	G55	71	CHEV	LDTRU	49	350	8	3	1	0	4	1	1	1	68	63	29.86	4500	12
	204490	CB	01/08/72					6342										76	63	30.05		
	204490	HA																				
310351	101222	CB	08/06/71	G55	71	CHEV	ELCAM	15	350	8	0	1	0	4	1	1	1	74	64	30.14	4000	10
	203177	CB	08/07/71					4381										74	70	29.76		
	203177	HA																				

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CAR NO	RUN NO	ST	—DATE—	MFG YR	MAKE	MODEL	ODOMR	CID	CYL	TRN	A/C	FSO	BBL	PCV	EXH	EVP	DR	WB	BAROM	INER	HP
310013	100318	CB	12/19/70	G57	71	CHEV	IMPAL	58	350	8	0	1	0	2	1	1	1	69	55	29.72	4500	11
	201643	CB	04/06/71					4576										70	60	30.04		
	201643	HA																				
310054	100432	CB	01/06/71	G57	71	CHEV	IMPAL	50	350	8	0	1	0	2	1	1	1	69	56	30.17	4500	11
	201640	CB	04/06/71					4248										72	60	30.04		
	201640	HA																				
310061	101317	CB	03/16/71	G57	71	CHEV	IMPAL	22	350	8	0	1	0	2	1	1	1	71	60	30.11	4500	11
	202051	CB	05/04/71					4813										71	60	30.02		
	202051	HA																				
310092	100590	CB	01/21/71	G57	71	CHEV	IMPAL	59	350	8	0	1	0	2	1	1	1	68	61	30.04	4500	11
	203127	CB	07/31/71					4688										76	69	29.81		
	203127	HA																				
310102	100622	CB	01/26/71	G57	71	CHEV	IMPAL	48	350	8	0	1	0	2	1	1	1	70	55	30.19	4500	11
	201684	CB	04/08/71					5863										70	60	30.06		
	201684	HA																				
310180	100745	CB	02/06/71	G57	71	CHEV	IMPAL	50	350	8	0	1	0	2	1	1	1	71	60	29.90	4500	11
	202349	CB	05/25/71					6085										70	65	29.79		
	202349	HA																				
310182	100815	CB	02/12/71	G57	71	CHEV	CHEVR	45	350	8	0	1	0	2	1	1	1	78	65	30.12	4500	11
	202623	CB	06/15/71					4864										69	63	29.78		
	202623	HA																				
310226	100913	CB	02/18/71	G57	71	CHEV	IMPAL	16	350	8	0	1	0	2	1	1	1	67	57	29.65	4500	11
	202186	CB	05/12/71					6053										68	63	29.96		
	202186	HA																				
310308	101266	CB	03/10/71	G57	71	CHEV	IMPAL	48	350	8	0	1	0	2	1	1	1	71	64	30.10	4500	11
	202253	CB	05/18/71					5864										73	64	29.83		
	202253	HA																				
310136	100725	CB	02/05/71	G59	71	CHEV	IMPAL	12	400	8	0	1	0	2	1	1	1	72	60	30.10	4500	11
	202850	CB	07/02/71					6539										70	63	29.84		
	202850	HA																				
310155	100693	CB	02/03/71	G59	71	CHEV	CAPRI	17	400	8	0	1	0	2	1	1	1	68	60	30.01	4500	11
	202589	CB	06/10/71					4343										74	62	29.86		
	202589	HA																				
310231	100989	CB	02/23/71	G59	71	CHEV	IMPAL	58	400	8	0	1	0	2	1	1	1	71	59	29.79	4500	11
	202716	CB	06/22/71					6217										73	66	29.95		
	202716	HA																				
310238	101019	CB	02/24/71	G60	71	CHEV	CAPRI	15	402	8	0	1	0	4	1	1	1	70	50	29.95	4500	11
	202755	CB	06/24/71					4202										73	67	29.85		
	202755	HA																				
310118	100633	CB	01/27/71	G61	71	PONT	CATAL	59	350	8	0	1	0	2	1	1	1	83	66	30.08	4500	11
	202447	CB	06/02/71					4094										70	60	29.92		
	202447	HA																				

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CAR NO	RUN NO	ST	--DATE--	MFG YR	MAKE	MODEL	ODOMR	CID	CYL	TRN	A/C	FSO	BBL	PCV	EXH	EVP	DB	WB	BAROM	INER	HP
310186	100949	CB	02/19/71	G62 71	PONT	LEMAN	17	400	8	0	1	0	2	1	1	1	72	58	30.11	4500	9
	203577	CB	09/29/71				5766										73	61	29.99		
	203577	HA																			
310190	101042	CB	02/25/71	G62 71	PONT	CATAL	55	400	8	0	1	0	2	1	1	1	73	59	29.96	4500	11
	202948	CB	07/13/71				5956										76	67	29.89		
	202948	HA																			
310246	101099	CB	02/27/71	G68 71	PONT	FIREB	15	400	8	0	1	0	4	1	1	1	70	55	30.02	4000	8
	202160	CB	05/11/71				6445										74	62	29.98		
	202160	HA																			
310251	101294	CB	03/11/71	G69 71	PONT	BONNE	14	455	8	0	1	0	2	1	1	1	71	58	30.05	5000	11
	202622	CB	06/15/71				5855										69	63	29.78		
	202622	HA																			
310250	101293	CB	03/11/71	G70 71	PONT	GRANV	55	455	8	0	1	0	4	1	1	1	69	59	30.05	5000	11
	203287	CB	08/19/71				4738										77	70	30.09		
	203287	HA																			
310066	100551	CB	01/16/71	G72 71	OLDS	CUTLA	19	350	8	0	1	0	4	1	1	1	67	59	30.22	4000	10
	201984	CB	04/30/71				6017										72	61	30.00		
	201984	HA																			
310282	101141	CB	03/03/71	G72 71	OLDS	CUTLA	46	350	8	0	1	0	4	1	1	1	70	54	30.37	4000	10
	202266	CB	05/19/71				5972										72	57	29.90		
	202266	HA																			
310128	100708	CB	02/04/71	G73 71	OLDS	DELTA	10	455	8	0	1	0	2	1	1	1	71	64	30.16	5000	11
	202831	CB	07/01/71				4365										81	67	27.83		
	202831	HA																			
310154	100802	CB	02/11/71	G73 71	OLDS	DELTA	52	455	8	0	1	0	2	1	1	1	71	61	30.12	5000	11
	202668	CB	06/17/71				5212										70	61	29.74		
	202668	HA																			
310010	100234	CB	12/11/70	G71 71	BUIC	LESAB	14	350	8	0	1	0	4	1	1	1	69	53	30.12	5000	11
	204361	CB	12/07/71				6771										78	51	30.05		
	204361	HA																			
310018	100428	CB	01/06/71	G74 71	BUIC	SKYLA	27	350	8	0	1	0	2	1	1	1	68	55	30.20	4000	10
	204235	CB	11/23/71				4916										72	58	30.34		
	204235	HA																			
310055	100444	CB	01/07/71	G74 71	BUIC	SKYLA	60	350	8	0	1	0	2	1	1	1	72	58	30.23	4000	10
	203144	CB	08/04/71				4033										75	72	29.75		
	203144	HA																			
310170	100710	CB	02/04/71	G74 71	BUIC	SKYLA	11	350	8	0	1	0	2	1	1	1	72	65	30.16	4000	10
	204351	CB	12/06/71				4098										73	62	30.22		
	204351	HA																			
310142	101013	CB	02/24/71	G75 71	BUIC	ELECT	55	455	8	0	1	0	4	1	1	1	70	52	29.89	5000	11
	202830	CB	07/01/71				5526										82	68	29.84		
	202830	HA																			

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CAR NO	RUN NO	ST	--DATE--	MFG	YR	MAKE	MODEL	ODOMR	CID	CYL	TRN	A/C	FSD	BBL	PCV	EXH	EVP	DB	WB	BAROM	INER	HP
310159	100829	CB	02/13/71	G75	71	BUIC	RIVIE	41	455	8	0	1	0	4	1	1	1	72	66	30.03	5000	11
	202685	CB	06/18/71					5748														
	202685	HA																72	65	29.79		
310286	101173	CB	03/04/71	G76	71	CADI	DEVIL	30	472	8	0	1	0	4	1	2	1	68	56	29.98	5500	11
	202960	CB	07/14/71					5417														
	202960	HA																72	66	29.80		
310100	100604	CB	01/22/71	G78	71	CADI	ELDOR	40	500	8	0	1	0	4	1	2	1	70	61	30.04	5500	11
	202586	CB	06/10/71					4163														
	202586	HA																73	62	29.90		
310025	100064	CB	11/27/70	V82	71	VOLK	SQBK	56	97	4	0	0	1	0	1	1	1	67	57	30.09	2500	7
	201662	CB	04/07/71					4991														
	201662	HA																73	60	30.11		
310313	101357	CB	03/18/71	V82	71	VOLK	FTBK	33	97	4	4	0	1	0	1	1	1	75	61	30.00	2500	7
	204293	CB	11/30/71					5167														
	204293	HA																76	62	30.10		
310011	100229	CB	12/11/70	V83	71	VOLK	SUPER	56	97	4	4	0	0	1	1	1	1	70	56	30.20	2250	6
	201710	CB	04/13/71					4829														
	201710	HA																71	60	30.00		
310101	100607	CB	01/23/71	V83	71	VOLK	BEETL	58	97	4	4	0	0	1	1	1	1	70	63	29.97	2250	6
	201892	CB	04/23/71					4819														
	201892	HA																70	57	29.93		
310181	100764	CB	02/09/71	V83	71	VOLK	BEETL	29	97	4	4	0	0	1	1	1	1	71	58	30.15	2250	6
	201925	CB	04/27/71					4356														
	201925	HA																61	51	29.93		
310221	100918	CB	02/18/71	V83	71	VOLK	BEETL	46	97	4	4	0	0	1	1	1	1	68	56	30.02	2250	6
	202355	CB	06/08/71					5811														
	202355	HA																71	62	29.95		
310233	100911	CB	02/18/71	V83	71	VOLK	BEETL	42	97	4	4	0	0	1	1	1	1	72	60	29.95	2250	6
	203349	CA	08/26/71					6542														
	203349	HA																69	64	29.82		
310295	101199	CB	03/05/71	V83	71	VOLK	BEETL	29	97	4	4	0	0	1	1	1	1	70	57	29.96	2250	6
	204057	CB	10/20/71					5249														
	204057	HA																68	58	30.22		
310327	101511	CB	03/26/71	V83	71	VOLK	BEETL	12	97	4	0	0	0	1	1	1	1	69	59	30.02	2250	6
	203108	CB	07/29/71					4482														
	203108	HA																83	69	29.86		
310328	101512	CB	03/26/71	V83	71	VOLK	BEETL	14	97	4	4	0	0	1	1	1	1	70	62	30.01	2250	6
	203188	CB	08/10/71					5428														
	203188	HA																75	69	29.80		
310354	101321	CB	03/16/71	V83	71	VOLK	BEETL	23	97	4	4	0	0	1	1	1	1	68	58	30.10	2250	6
	203135	CB	08/03/71					4700														
	203135	HA																77	70	29.66		

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DETROIT CAR NO	RUN NO	ST	--DATE--	MFG YR	MAKE	MODEL	ODOMR	CID	CYL	TRN	A/C	FSO	BBL	PCV	EXH	EVP	DB	WB	BAROM	INER	HP
410231	100231	CB	02/10/71	C12	71	PLYM	BARRA	20	318	8	0	0	0	2	1	1	1	69	58	30.12	3500	9
	200976	CB	10/28/71					5492										73	66	30.31		
	200976	HA																				
410233	100233	CB	02/10/71	C12	71	PLYM	DUSTE	2	318	8	0	0	0	2	1	1	1	71	60	30.13	3500	8
	200995	CB	11/15/71					5955										77	65	30.41		
	200995	HA																				
410234	100234	CB	02/10/71	C12	71	PLYM	SATEL	3	318	8	0	0	0	2	1	1	1	71	62	30.30	4000	9
	200956	CB	10/20/71					7031										75	64	30.49		
	200956	HA																				
410244	100244	CB	02/12/71	C12	71	PLYM	SATEL	3	318	8	0	0	0	2	1	1	1	69	58	30.14	4000	9
	200897	CB	09/30/71					6890										76	70	30.29		
	200897	HA																				
410136	100135	CB	01/21/71	C13	71	DODG	CHARG	10	383	8	0	1	0	2	1	1	1	71	60	29.82	4500	11
	200986	CB	11/09/71					6377										72	61	30.41		
	200986	HA																				
410613	100889	CB	09/18/71	C13	71	DODG	CHARG	9	383	8	0	0	0	2	1	1	1	71	64	29.64	4500	11
	201103	CB	02/09/72					5944										76	65	29.61		
	201103	HA																				
410240	100240	CB	02/11/71	C14	71	CHRY	300	3	440	8	0	1	0	4	1	1	1	71	57	30.10	5000	11
	201014	CB	11/26/71					5536										75	63	29.48		
	201014	HA																				
410492	100641	CB	04/22/71	C14	71	CHRY	300	50	440	8	0	1	0	4	1	1	1	70	60	30.10	5000	11
	200988	CB	11/10/71					4287										76	65	30.30		
	200988	HA																				
410052	100477	CB	03/26/71	C18	71	DODG	POLAR	19	360	8	0	1	0	2	1	1	1	74	63	30.74	4500	11
	201008	CB	11/22/71					6148										74	56	29.70		
	201008	HA																				
410254	100254	CB	02/15/71	F30	71	FORD	MAVER	10	170	6	3	0	0	1	1	1	1	71	61	30.11	3000	9
	200952	CB	10/10/71					5006										73	66	30.31		
	200952	HA																				
410255	100255	CB	02/15/71	F32	71	FORD	MAVER	11	200	6	0	0	0	1	1	1	1	68	51	30.10	3000	9
	201003	CB	11/17/71					4086										75	63	30.40		
	201003	HA																				
410229	100229	CB	02/09/71	F33	71	FORD	MUSTA	14	302	8	0	0	0	2	1	1	1	71	66	30.11	3500	9
	201004	CB	11/17/71					4575										71	62	30.28		
	201004	HA																				
410268	100269	CB	02/17/71	F33	71	FORD	TORIN	10	302	8	0	0	0	2	1	1	1	71	64	30.30	3500	10
	200984	CB	11/08/71					4123										76	65	30.45		
	200984	HA																				
410308	100327	CB	02/25/71	F33	71	FORD	TORIN	15	302	8	0	0	0	2	1	1	1	68	58	30.13	3500	10
	200891	CB	09/24/71					4077										73	63	30.61		
	200891	HA																				

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DETROIT CAR NO	RUN NO	ST	--DATE--	MFG YR	MAKE	MODEL	ODOMR	CID	CYL	TRN	A/C	FSO	BBL	PCV	EXH	EVP	OB	WB	BAROM	INER	HP
410372	100438	CB	03/19/71	F33	71	FORD	LDTRU	27	302	8	3	0	0	2	1	1	1	69	57	29.64	4000	12
	200954	CB	10/19/71					6791										75	65	30.38		
	200954	HA																				
410215	100215	CB	02/08/71	F34	71	FORD	GALAX	23	351	8	0	0	0	2	1	1	1	74	61	30.20	4500	11
	200994	CB	11/12/71					4349										80	68	30.30		
	200994	HA																				
410218	100218	CB	02/08/71	F34	71	FORD	TORIN	7	351	8	0	0	0	2	1	1	1	74	62	30.02	4000	10
	201007	CB	11/22/71					6478										74	57	29.63		
	201007	HA																				
410302	100321	CB	02/24/71	F35	71	FORD	GALAX	11	390	8	0	0	0	2	1	1	1	70	60	30.13	4500	11
	200987	CB	11/09/71					5242										75	63	29.50		
	200987	HA																				
410317	100339	CB	02/26/71	F35	71	FORD	LTD	67	370	8	0	1	0	2	1	1	1	68	62	29.91	4500	11
	200962	CB	10/25/71					6333										81	70	30.09		
	200962	HA																				
410349	100414	CB	03/16/71	F37	71	FORD	ECONO	9	240	6	3	0	0	1	1	1	1	71	60	29.93	4000	13
	201012	CB	11/24/71					4309										73	62	29.52		
	201012	HA																				
410305	100324	CB	02/24/71	F38	71	FORD	MAVER	55	250	6	0	0	0	1	1	1	1	68	60	30.13	3000	9
	200922	CB	10/08/71					7010										78	65	30.06		
	200922	HA																				
410310	100329	CB	02/25/71	F41	71	FORD	LDTRL	10	360	8	3	0	0	2	1	1	1	65	56	30.12	4000	12
	200893	CB	09/29/71					5652										76	72	31.80		
	200893	HA																				
410315	100338	CB	02/26/71	F43	71	FORD	LTD	15	400	8	0	1	0	2	1	1	1	68	56	30.00	4500	11
	201018	CB	12/03/71					5667										71	60	29.95		
	201018	HA																				
410358	100422	CB	03/16/71	F43	71	FORD	LTD	2	400	8	0	1	0	2	1	1	1	68	58	30.22	4500	11
	200959	CB	10/25/71					5027										76	66	30.05		
	200959	HA																				
410543	100725	CB	05/10/71	G49	71	CHEV	VEGA	11	140	4	0	0	0	1	1	1	1	71	62	30.82	2500	5
	201024	CB	12/13/71					6599										73	56	29.66		
	201024	HA																				
410438	100559	CB	04/08/71	G52	71	CHEV	NOVA	27	250	6	0	0	0	1	1	1	1	68	56	30.41	3500	9
	201019	CB	12/01/71					5828										70	68	29.83		
	201019	HA																				
410450	100573	CB	04/12/71	G52	71	CHEV	NOVA	27	250	6	0	0	0	1	1	1	1	80	66	30.30	3500	9
	200942	CB	10/14/71					6494										75	65	30.00		
	200942	HA																				
410544	100729	CB	05/11/71	G52	71	CHEV	CAMAR	10	250	6	3	0	0	1	1	1	1	71	60	30.73	3500	8
	201022	CB	12/09/71					4140										77	62	29.41		
	201022	HA																				

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DETROIT CAR NO	RUN NO	ST	--DATE--	MFG YR	MAKE	MODEL	ODOMR	CID	CYL	TRN	A/C	FSO	BBL	PCV	EXH	EVP	DB	WB	BAROM	INER	HP
410553	100759	CB	05/12/71	G52	71	CHEV	IMPAL	16	250	6	3	0	0	1	1	1	1	69	59	30.52	4000	11
	201006	CB	11/19/71					4356										78	67	29.90		
	201006	HA																				
410562	100779	CB	05/14/71	G52	71	CHEV	CAMAR	9	250	6	3	0	0	1	1	1	1	69	59	30.71	3500	8
	201009	CB	11/23/71					4149										79	59	29.90		
	201009	HA																				
410566	100783	CB	05/17/71	G52	71	CHEV	CAMAR	11	250	6	0	0	0	1	1	1	1	73	62	30.66	3500	8
	201093	CB	01/21/72					4530										75	65	29.48		
	201093	HA																				
410571	100799	CB	05/20/71	G52	71	CHEV	MALIB	17	250	6	0	0	0	1	1	1	1	70	60	30.73	3500	10
	200951	CB	10/18/71					4580										75	65	30.35		
	200951	HA																				
410548	100754	CB	05/12/71	G53	71	CHEV	CHEVE	11	307	8	0	0	0	2	1	1	1	68	59	30.54	3500	10
	200931	CB	10/09/71					6405										77	67	29.94		
	200931	HA																				
410086	100084	CB	01/13/71	G57	71	CHEV	MALIB	10	350	8	0	1	0	2	1	1	1	70	62	30.52	4000	10
	201007	CB	11/19/71					5106										80	68	29.92		
	201007	HA																				
410256	100256	CB	02/16/71	G57	71	CHEV	MONTE	30	350	8	0	1	0	2	1	1	1	68	59	30.44	4000	11
	200823	CB	08/10/71					5698										82	73	30.41		
	200823	HA																				
410360	100425	CB	03/17/71	G57	71	CHEV	IMPAL	4	350	8	0	0	0	2	1	1	1	70	69	30.42	4500	11
	200991	CB	11/11/71					5470										76	64	30.24		
	200991	HA																				
410422	100521	CB	04/05/71	G57	71	CHEV	NOVA	41	350	8	3	0	0	2	1	1	1	68	59	30.84	3500	8
	200983	CB	11/09/71					6121										73	62	30.45		
	200983	HA																				
410312	100333	CB	02/26/71	G61	71	PONT	LEMAN	15	350	8	0	0	0	2	1	1	1	68	57	30.03	4000	9
	200894	CB	08/29/71					6893										78	74	30.20		
	200894	HA																				
410313	100334	CB	02/26/71	G61	71	PONT	LEMAN	10	350	8	0	0	0	2	1	1	1	67	55	30.00	4000	9
	201038	CB	01/05/72					5612										74	62	29.52		
	201038	HA																				
410526	100699	CB	05/04/71	G66	71	OLDS	DELTA	49	350	8	0	1	0	2	1	1	1	70	60	30.60	4500	11
	200924	CB	10/08/71					6881										80	71	30.18		
	200924	HA																				
410065	100065	CB	01/09/71	G73	71	OLDS	DELTA	18	455	8	0	1	0	2	1	1	1	74	61	30.31	5000	11
	200910	CB	11/04/71					7010										78	68	29.91		
	200910	HA																				
410532	100705	CB	05/03/71	G73	71	OLDS	DELTA	8	455	8	0	1	0	2	1	1	1	71	61	30.44	5000	11
	200999	CB	11/16/71					5915										74	63	30.40		
	200999	HA																				

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410345	100410	CB	03/15/71	G71	71	BUIC	LESAB	4	350	8	0	1	0	4	1	1	1	69	57	29.52	5000	11
	201017	CB	12/03/71					4863										71	60	29.89		
	201017	HA																				
410344	100409	CB	03/15/71	G74	71	BUIC	SKYLA	8	350	8	0	0	0	2	1	1	1	68	57	29.42	4000	1C
	200915	CB	10/06/71					4165										72	65	29.90		
	200915	HA																				
410559	100776	CB	05/13/71	G74	71	BUIC	LESAB	44	350	8	0	0	0	2	1	1	1	71	60	30.41	5000	11
	201023	CB	12/13/71					5761										70	58	29.60		
	201023	HA																				
410147	100147	CB	01/25/71	G75	71	BUIC	ELECT	60	455	8	0	1	0	4	1	1	1	71	60	30.14	5000	11
	200923	C.	10/08/71					6292										80	72	30.17		
	200923	HA																				
410335	100379	CB	03/09/71	G75	71	BUIC	RIVIE	7	455	8	0	1	0	4	1	1	1	71	60	30.40	5000	11
	201084	CB	01/19/72					4836										73	60	30.28		
	201084	HA																				
410356	100420	CB	03/16/71	G75	71	BUIC	LESAB	3	455	8	0	1	0	4	1	1	1	68	57	30.22	5000	11
	200985	CB	11/09/71					6619										78	67	30.44		
	200985	HA																				

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DENVER CAR NO	RUN NO	ST	--DATE--	MFG YR	MAKE	MODEL	ODOMR	CID	CYL	TRN	A/C	FSO	BBL	PCV	EXH	EVP	DB	WB	BAROM	INER	HP
510010	100032	CB	02/11/71	A 1 71	AMER	JAVEL	16	232	6	3	0	0	1	1	1	1	75	53	25.02	3000	9
	200770	CB	09/30/71				4329										72	58	24.66		
	200770	HA																			
510016	100037	CB	02/12/71	A 1 71	AMER	HORNE	15	232	6	3	0	0	1	1	1	1	74	56	25.23	3000	9
	200785	CB	10/21/71				4246										75	55	25.05		
	200785	HA																			
510105	100212	CB	03/19/71	A 1 71	AMER	HORNE	18	232	6	3	0	0	1	1	1	1	72	50	25.15	3000	9
	200720	CA	09/02/71				4435										82	60	24.82		
	200720	HA																			
510210	100368	CB	04/19/71	A 1 71	AMER	HORNE	21	232	6	0	0	0	1	1	1	1	74	56	24.58	3000	9
	200810	CB	12/14/71				4027										70	50	24.50		
	200810	HA																			
510255	100414	CB	04/26/71	A 1 71	AMER	HORNE	26	232	6	0	0	0	1	1	1	1	72	54	24.70	3000	9
	200778	CB	10/07/71				6909										74	55	25.05		
	200778	HA																			
510273	100434	CB	04/28/71	A 1 71	AMER	GREML	29	232	6	0	0	0	1	1	1	1	70	54	24.77	3000	9
	200790	CB	10/28/71				4546										72	59	24.90		
	200790	HA																			
510278	100450	CB	04/29/71	A 1 71	AMER	GREML	8	232	6	0	0	0	1	1	1	1	72	60	24.80	3000	9
	200798	CB	11/18/71				4695										70	55	24.95		
	200798	HA																			
510013	100038	CB	02/12/71	A 4 71	AMER	HORNE	16	258	6	0	0	0	1	1	1	1	74	55	25.19	3000	9
	200789	CB	10/28/71				6981										72	59	24.90		
	200789	HA																			
510249	100404	CB	04/23/71	A 4 71	AMER	GREML	20	258	6	0	0	0	1	1	1	1	72	56	24.90	3000	9
	200777	CB	10/06/71				4904										77	61	25.10		
	200777	HA																			
510264	100428	CB	04/27/71	A 4 71	AMER	HORNE	27	258	6	0	1	0	1	1	1	1	70	53	24.70	3000	9
	200763	CB	09/24/71				5110										72	56	25.02		
	200763	HA																			
510265	100427	CB	04/27/71	A 4 71	AMER	HORNE	28	258	6	0	1	0	1	1	1	1	72	53	24.70	3000	9
	200762	CB	09/24/71				6732										72	56	25.02		
	200762	HA																			
510012	100030	CB	02/11/71	A 5 71	AMER	MATAD	15	304	8	0	0	0	2	1	1	1	74	54	24.98	4000	9
	200673	CB	07/12/71				6889										79	70	25.05		
	200673	HA																			
510015	100035	CB	02/12/71	A 5 71	AMER	JAVEL	15	304	8	0	0	0	2	1	1	1	76	56	25.23	3500	9
	200648	CB	08/29/71				5320										75	61	24.96		
	200648	HA																			
510290	100459	CB	04/30/71	A 5 71	AMER	MATAD	17	304	8	0	1	0	2	1	1	1	71	57	25.10	4000	9
	200782	CB	10/19/71				5416										70	52	25.02		
	200782	HA																			

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DENVER CAR NO	RUN NO	ST	--DATE--	MFG YR	MAKE	MODEL	CODE/MR	CID	CYL	TRN	A/C	PSO	BBL	PCV	EXH	EVP	DB	WB	BAROM	INER	HP
510014	100042	CB	02/15/71	A	7	71	AMER	JAVEL	18	360	8	0	0	0	2	1	1	1	71	54	24.82	3500	9
	200642	CB	06/25/71						6859										79	61	24.95		
	200642	MA																					
510018	100043	CB	02/15/71	A	7	71	AMER	MATAD	15	360	8	0	0	0	2	1	1	1	72	55	24.78	4000	9
	200685	CB	07/27/71						4311										78	67	24.95		
	200685	MA																					
510092	100191	CB	03/17/71	A	7	71	AMER	MATAD	37	360	8	0	0	0	2	1	1	1	72	52	24.70	4000	9
	200816	CB	12/15/71						4265										73	66	24.55		
	200816	MA																					
510098	100221	CB	03/22/71	A	7	71	AMER	JAVEL	10	360	8	0	0	0	2	1	1	1	72	54	25.05	3500	9
	200812	CB	12/14/71						6893										74	55	24.45		
	200812	MA																					
510191	100346	CB	04/14/71	A	7	71	AMER	AMBAS	8	360	8	0	1	0	2	1	1	1	72	52	24.86	4000	10
	200743	CA	09/13/71						6390										80	62	25.00		
	200743	MA																					
510271	100441	CB	04/28/71	A	9	71	AMER	AMBAS	28	360	8	0	1	0	4	1	1	1	72	54	24.70	4000	10
	200727	CA	09/07/71						6871										91	63	24.41		
	200727	MA																					
510127	100256	CB	03/25/71	C10	7	71	DODG	DEMON	13	198	6	0	0	0	1	1	1	1	74	54	24.80	3500	8
	200710	CA	08/30/71						4717										81	63	25.00		
	200710	MA																					
510042	100099	CB	03/01/71	C11	7	71	PLYM	VALIA	18	225	6	3	0	0	1	1	1	1	73	53	24.80	3000	9
	200670	CB	07/09/71						4609										84	62	25.05		
	200670	MA																					
510054	100134	CB	03/08/71	C11	7	71	PLYM	VALIA	13	225	6	0	0	0	1	1	1	1	72	52	24.85	3000	8
	200728	CA	09/08/71						4412										69	59	25.10		
	200728	MA																					
510056	100133	CB	03/08/71	C11	7	71	PLYM	DUSTE	32	225	6	0	0	0	1	1	1	1	72	52	24.97	3000	8
	200792	CB	11/04/71						4093										72	53	24.90		
	200792	MA																					
510052	100124	CB	03/04/71	C12	7	71	PLYM	DUSTE	13	318	8	0	0	0	2	1	1	1	73	53	24.62	3500	8
	200671	CB	07/12/71						5070										79	70	25.05		
	200671	MA																					
510062	100143	CB	03/09/71	C12	7	71	PLYM	DUSTE	13	318	8	0	0	0	2	1	1	1	75	55	24.86	3500	8
	200662	CB	07/07/71						5437										86	60	24.99		
	200662	MA																					
510067	100150	CB	03/10/71	C12	7	71	PLYM	SATEL	14	318	8	0	0	0	2	1	1	1	73	53	24.83	4000	9
	200794	CB	11/05/71						4515										72	53	24.90		
	200794	MA																					
510068	100149	CB	03/10/71	C12	7	71	PLYM	BARRA	24	318	8	0	0	0	2	1	1	1	73	53	24.83	3500	9
	200819	CB	12/16/71						6216										69	54	24.95		
	200819	MA																					

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DENVER CAR NO	RUN NO	ST	--DATE--	MFG YR	MAKE	MODEL	ODOMR	CID	CYL	TRN	A/C	FSO	BPS	PCV	EXH	EVP	DB	WB	BAROM	INER	HP
510238	100412	CB	04/26/71	C12	71	PLYM	SATEL	36	318	8	0	1	0	2	1	1	1	72	54	24.75	4000	9
	200730	CA	09/08/71				5745											75	61	25.09		
	200730	MA																				
510079	100174	CB	03/15/71	C13	71	PLYM	FURY	15	383	8	0	1	0	2	1	1	1	74	54	24.90	4500	11
	200754	CA	09/17/71				4078											76	56	25.20		
	200754	MA																				
510111	100225	CB	03/22/71	C13	71	DODG	CORON	1	383	8	0	0	0	2	1	1	1	74	55	25.05	4500	11
	200813	CB	12/14/71				4571											76	61	24.40		
	200813	MA																				
510081	100173	CB	03/15/71	C14	71	CHRY	NEWYO	14	440	8	0	1	0	4	1	1	1	74	54	24.90	5000	11
	200639	CB	06/24/71				6817											83	59	24.95		
	200639	MA																				
510069	100148	CB	03/03/71	C15	71	PLYM	BARRA	27	340	8	0	0	0	4	1	1	1	72	52	24.83	3500	8
	200640	CB	06/24/71				5593											94	63	24.94		
	200640	MA																				
510050	100122	CB	03/04/71	C16	71	PLYM	FURY	12	360	8	0	1	0	2	1	1	1	73	53	24.70	4500	11
	200740	CA	09/13/71				4135											70	59	25.05		
	200740	MA																				
510072	100157	CB	03/11/71	C16	71	PLYM	FURY	23	360	8	0	0	0	2	1	1	1	72	53	24.80	4500	11
	200821	CB	12/16/71				4037											71	58	24.95		
	200821	MA																				
510227	100387	CB	04/21/71	C16	71	DODG	POLAR	15	360	8	0	1	0	2	1	1	1	72	52	24.56	4500	11
	200713	CA	08/31/71				6019											86	61	24.90		
	200713	MA																				
510045	100104	CB	03/02/71	C18	71	PLYM	ROADR	18	383	8	4	0	0	4	1	1	1	73	52	25.20	4500	9
	200712	CB	08/31/71				4508											73	60	25.08		
	200712	MA																				
510048	100115	CB	03/03/71	C18	71	PLYM	ROADR	16	383	8	0	0	0	4	1	1	1	73	53	24.89	4500	9
	200641	CB	06/24/71				4663											87	62	24.90		
	200641	MA																				
510109	100216	CB	03/19/71	F28	71	FORD	PINTO	48	98	4	4	0	0	1	1	1	1	77	56	25.10	2250	6
	200750	CA	09/16/71				6105											65	52	25.08		
	200750	MA																				
510019	100040	CB	02/15/71	F29	71	FORD	PINTO	50	122	4	0	0	0	2	1	1	1	72	54	24.85	2500	6
	200638	CB	06/23/71				5755											89	60	24.95		
	200638	MA																				
510169	100331	CB	04/13/71	F29	71	FORD	PINTO	20	122	4	0	0	0	2	1	1	1	72	52	25.28	2500	6
	200809	CB	12/14/71				5117											71	56	24.55		
	200809	MA																				
510172	100332	CB	04/13/71	F29	71	FORD	PINTO	21	122	4	4	0	0	2	1	1	1	72	52	25.28	2250	6
	200735	CA	09/09/71				5282											76	57	25.02		
	200735	MA																				

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510115	100234	CB	03/23/71	F30	71	FORD	MAVER	19	170	6	3	0	0	1	1	1	1	74	54	24.98	3000	9
	200795	CB	11/10/71					4111										72	53	25.14		
	200795	HA																				
510196	100351	CB	04/15/71	F32	71	FORD	MAVER	15	200	6	0	0	0	1	1	1	1	72	50	24.76	3000	9
	200724	CA	09/07/71					5569										77	58	24.49		
	200724	HA																				
510002	100003	CB	02/01/71	F33	71	FORD	MUSTA	57	302	8	0	0	0	2	1	1	1	77	55	25.01	3500	8
	200626	CB	06/16/71					4178										75	57	25.00		
	200626	HA																				
510003	100004	CB	02/02/71	F33	71	FORD	MUSTA	12	302	8	0	0	0	2	1	1	1	72	53	24.98	3500	8
	200628	CB	06/17/71					4007										80	62	24.90		
	200628	HA																				
510129	100255	CB	03/25/71	F33	71	FORD	MAVER	20	302	8	3	0	0	2	1	1	1	74	54	24.80	3500	10
	200781	CB	10/15/71					4662										71	55	24.78		
	200781	HA																				
510043	100107	CB	03/02/71	F34	71	MERC	MONTG	26	351	8	0	0	0	2	1	1	1	73	52	25.20	4000	10
	200666	CB	07/08/71					4174										72	55	25.20		
	200666	HA																				
510122	100247	CB	03/24/71	F34	71	FORD	MUSTA	27	351	8	0	1	0	2	1	1	1	77	56	24.70	3500	9
	200725	CA	09/07/71					4704										85	60	24.46		
	200725	HA																				
510134	100274	CB	03/29/71	F34	71	FORD	GALAX	12	351	8	0	1	0	2	1	1	1	73	52	25.15	4500	11
	200818	CB	12/16/71					4605										69	54	24.90		
	200818	HA																				
510137	100263	CB	03/26/71	F34	71	FORD	GALAX	14	351	8	0	1	0	2	1	1	1	73	54	24.81	4500	11
	200783	CB	10/19/71					4814										73	55	24.98		
	200783	HA																				
510173	100322	CB	04/12/71	F35	71	FORD	LTD	21	390	8	0	1	0	2	1	1	1	78	53	24.95	4500	11
	200817	CB	12/15/71					5970										72	55	24.55		
	200817	HA																				
510174	100323	CB	04/12/71	F36	71	FORD	LTD	13	429	8	0	1	0	4	1	1	1	78	53	24.95	5000	11
	200736	CA	09/10/71					4949										70	55	25.08		
	200736	HA																				
510285	100458	CB	04/30/71	F36	71	FORD	LTD	26	429	8	0	1	0	4	1	1	1	71	57	25.05	5000	11
	200787	CB	10/28/71					4536										69	52	24.90		
	200787	HA																				
510262	100467	CB	05/03/71	F37	71	FORD	ECONO	22	240	6	3	0	0	1	1	1	1	72	62	25.00	4000	13
	200805	CB	12/07/71					4329										67	55	24.81		
	200805	HA																				
510215	100371	CB	04/20/71	F38	71	FORD	MAVER	21	250	6	0	0	0	1	1	1	1	72	54	24.56	3000	9
	200738	CA	09/10/71					6538										83	60	25.09		
	200738	HA																				

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510222	100381	CB	04/21/71	F38	71	FORD	MUSTA	17	250	6	3	0	0	1	1	1	1	73	53	24.62	3500	9
	200737	CB	09/10/71					6659										75	56	25.09		
	200737	HA																				
510216	100370	CB	04/20/71	F41	71	FORD	LDTRU	47	360	8	0	0	0	2	1	1	1	72	54	24.56	4000	12
	200688	CB	07/22/71					4119										84	64	25.00		
	200688	HA																				
510152	100296	CB	03/31/71	F43	71	FORD	LTD	48	400	8	0	1	0	2	1	1	1	74	53	24.50	4500	11
	200811	CB	12/14/71					6278										71	53	24.50		
	200811	HA																				
510164	100305	CB	04/01/71	F43	71	FORD	GALAX	30	400	8	0	1	0	2	1	1	1	74	53	25.12	4500	11
	200711	CA	08/30/71					6807										81	63	25.00		
	200711	HA																				
510208	100362	CB	04/19/71	F43	71	FORD	LTD	14	400	8	0	1	0	2	1	1	1	74	56	24.62	4500	11
	200741	CA	09/13/71					4220										76	60	25.05		
	200741	HA																				
510221	100382	CB	04/21/71	F43	71	FORD	LTD	12	400	8	0	1	0	2	1	1	1	71	52	24.62	4500	11
	200820	CB	12/16/71					4192										70	55	24.95		
	200820	HA																				
510178	100324	CB	04/12/71	F45	71	FORD	LTD	47	429	8	0	1	0	2	1	1	1	78	53	24.90	5000	11
	200748	CA	09/15/71					5473										74	56	24.97		
	200748	HA																				
510155	100294	CB	03/31/71	F47	71	LINC	CONTI	22	460	8	0	1	0	4	1	1	2	74	53	24.55	5500	11
	200797	CB	11/11/71					5221										75	54	25.05		
	200797	HA																				
510039	100095	CB	02/26/71	G49	71	CHEV	VEGA	24	140	4	0	0	0	1	1	1	1	73	53	24.76	2500	5
	200687	CB	07/22/71					6448										74	61	25.04		
	200687	HA																				
510101	100203	CB	03/18/71	G49	71	CHEV	VEGA	27	140	4	0	0	0	1	1	1	1	73	53	25.10	2500	5
	200613	CB	06/07/71					4716										69	59	25.04		
	200613	HA																				
510157	100307	CB	04/01/71	G49	71	CHEV	VEGA	24	140	4	4	0	0	1	1	1	1	74	53	25.15	2500	5
	200682	CB	07/20/71					4562										83	67	25.10		
	200682	HA																				
510097	100196	CB	03/17/71	G52	71	CHEV	CAMAR	19	250	6	0	0	0	1	1	1	1	76	55	24.60	3500	8
	200672	CB	07/12/71					4426										79	70	25.05		
	200672	HA																				
510104	100211	CB	03/19/71	G52	71	CHEV	CAMAR	36	250	6	3	0	0	1	1	1	1	70	49	25.15	3500	8
	200721	CA	09/02/71					5401										82	60	24.82		
	200721	HA																				
510153	100299	CB	03/31/71	G52	71	CHEV	MALIB	1	250	6	3	0	0	1	1	1	1	74	53	24.50	3500	10
	200804	CB	12/07/71					6441										65	54	24.81		
	200804	HA																				

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510209	100366	CB	04/19/71	G52	71	CHEV	CAMAR	11	250	6	0	0	0	1	1	1	1	74	56	24.58	3500	8
	200729	CA	09/08/71					4194														
	200729	HA																73	60	25.10		
510020	100048	CB	02/17/71	G53	71	CHEV	NOVA	18	307	8	0	1	0	2	1	1	1	73	54	24.86	3500	9
	200378	CA	04/21/71					5631														
	200378	HA																73	52	24.62		
510032	100087	CB	02/25/71	G53	71	CHEV	ELCAM	21	307	8	0	0	0	2	1	1	1	73	54	24.45	3500	10
	200689	CB	07/22/71					4136														
	200689	HA																85	64	25.00		
510149	100298	CB	03/31/71	G53	71	CHEV	LDTRU	11	307	8	3	0	0	2	1	1	1	74	53	24.50	4000	12
	200719	CA	09/02/71					4899														
	200719	HA																76	59	24.84		
510187	100344	CB	04/14/71	G53	71	CHEV	MALIB	14	307	8	3	0	0	2	1	1	1	72	52	24.90	3500	10
	200803	CB	11/23/71					6382														
	200803	HA																72	51	25.00		
510027	100070	CB	02/22/71	G55	71	CHEV	BELAI	33	350	8	0	1	0	4	1	1	1	73	54	24.72	4500	11
	200733	CA	09/09/71					5760														
	200733	HA																69	56	25.04		
510040	100093	CB	02/26/71	G55	71	CHEV	IMPAL	13	350	8	0	0	0	4	1	1	1	73	54	24.74	4500	11
	200784	CB	10/20/71					6901														
	200784	HA																70	54	25.08		
510102	100206	CB	03/18/71	G55	71	CHEV	BELAI	19	350	8	0	1	0	4	1	1	1	77	56	25.10	4500	11
	200692	CB	07/23/71					6945														
	200692	HA																82	66	25.05		
510103	100207	CB	03/18/71	G55	71	CHEV	MONTE	15	350	8	0	1	0	4	1	1	1	77	56	25.10	4000	11
	200716	CA	09/01/71					6832														
	200716	HA																74	58	25.00		
510135	100269	CB	03/26/71	G56	71	CHEV	CHEVT	10	292	6	4	0	0	1	1	1	1	78	55	24.66	4000	12
	200747	CA	09/15/71					5070														
	200747	HA																70	52	25.01		
510219	100376	CB	04/20/71	G56	71	CHEV	LDTRU	16	292	6	3	0	0	1	1	1	1	72	54	24.56	4000	12
	200752	CB	09/16/71					4127														
	200752	HA																72	56	25.07		
510001	100001	CB	02/01/71	G57	71	CHEV	IMPAL	43	350	8	0	0	0	2	1	1	1	75	53	25.13	4500	11
	200601	CB	06/01/71					4043														
	200601	HA																72	66	24.98		
510004	100002	CB	02/01/71	G57	71	CHEV	IMPAL	55	350	8	0	0	0	2	1	1	1	75	55	25.04	4500	11
	200557	CB	05/18/71					4151														
	200557	HA																70	54	24.88		
510025	100076	CB	02/23/71	G57	71	CHEV	MALIB	6	350	8	0	0	0	2	1	1	1	72	53	24.80	4000	10
	200656	CB	07/02/71					4062														
	200656	HA																72	60	25.05		

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510028	100072	CB	02/23/71	G57	71	CHEV	CAMAR	9	350	8	0	1	0	2	1	1	1	73	54	24.79	3500	8
	200691	CB	07/23/71					6868										77	64	25.09		
	200691	HA																				
510094	100193	CB	03/17/71	G57	71	CHEV	NOVA	14	350	8	3	0	0	2	1	1	1	73	53	24.63	3500	8
	200822	CB	01/29/72					5388										77	58	24.90		
	200822	HA																				
510125	100244	CB	03/24/71	G57	71	CHEV	CHEVE	11	350	8	0	1	0	2	1	1	1	75	55	24.70	4000	10
	200751	CA	09/16/71					4148										72	55	25.07		
	200751	HA																				
510126	100245	CB	03/24/71	G57	71	CHEV	IMPAL	22	350	8	0	1	0	2	1	1	1	75	55	24.70	4500	11
	200734	CA	09/09/71					4870										76	57	25.02		
	200734	HA																				
510130	100252	CB	03/25/71	G57	71	CHEV	MALIB	11	350	8	0	1	0	2	1	1	1	73	54	24.80	4000	10
	200760	CB	09/23/71					4099										78	54	25.17		
	200760	HA																				
510140	100276	C..	03/29/71	G57	71	CHEV	IMPAL	19	350	8	0	0	0	2	1	1	1	77	53	25.10	4500	11
	200771	CB	09/30/71					4477										71	59	24.63		
	200771	HA																				
510141	100277	CB	03/29/71	G57	71	CHEV	NOVA	11	350	8	0	1	0	2	1	1	1	77	53	25.10	3500	8
	200636	CB	06/23/71					5096										79	59	25.00		
	200636	HA																				
510158	100313	CB	04/01/71	G57	71	CHEV	MALIB	16	350	8	0	0	0	2	1	1	1	75	52	25.25	4000	10
	200780	CB	10/12/71					6414										72	55	25.05		
	200780	HA																				
510184	100349	CB	04/14/71	G57	71	CHEV	MALIB	10	350	8	0	0	0	2	1	1	1	72	52	24.86	4000	10
	200814	CB	12/14/71					6389										76	62	24.40		
	200814	HA																				
510190	100343	CB	04/14/71	G57	71	CHEV	CAMAR	31	350	8	0	0	0	2	1	1	1	72	52	25.00	3500	8
	200796	CB	11/10/71					4087										76	57	25.14		
	200796	HA																				
510085	100183	CB	03/16/71	G60	71	CHEV	CAPRI	18	402	8	0	1	0	4	1	1	1	76	55	25.12	4500	11
	200815	CB	12/15/71					4448										70	66	24.55		
	200815	HA																				
510108	100215	CB	03/19/71	G60	71	CHEV	CAPRI	14	402	8	0	1	0	4	1	1	1	78	57	25.12	4500	11
	200807	CB	12/08/71					4048										65	55	24.90		
	200807	HA																				
510177	100326	CB	04/12/71	G60	71	CHEV	CHEVE	10	402	8	4	0	0	4	1	1	1	76	52	24.90	4000	10
	200806	CB	12/08/71					6144										62	55	24.90		
	200806	HA																				
510145	100289	CB	03/30/71	G64	71	CHEV	CHEVE	24	454	8	0	0	0	4	1	1	1	75	53	24.70	4500	11
	200658	CB	07/06/71					4404										77	59	24.96		
	200658	HA																				

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510049	100113	CB	03/03/71	G61	71	PONT	LEMAN	15	350	8	0	1	0	2	1	1	1	73	52	24.95	4000	9
	200759	CB	09/23/71					4063										78	53	25.17		
	200759	HA																				
510057	100128	CB	03/05/71	G61	71	PONT	FIREB	26	350	8	0	1	0	2	1	1	1	71	52	24.65	4000	9
	200776	CB	10/06/71					4450										77	61	25.10		
	200776	HA																				
510168	100336	CB	04/13/71	G62	71	PONT	CATAL	25	400	8	0	1	0	2	1	1	1	73	53	25.20	4500	11
	200652	CB	06/30/71					4218										74	60	25.15		
	200652	HA																				
510059	100136	CB	03/08/71	G68	71	PONT	CATAL	20	400	8	0	1	0	4	1	1	1	72	52	24.80	4500	11
	200660	CB	07/07/71					5047										76	57	25.50		
	200660	HA																				
510138	100268	CB	03/26/71	G70	71	PONT	FIREB	46	455	8	0	1	0	4	1	1	1	78	55	24.66	4000	10
	200774	CB	10/06/71					4780										70	56	25.20		
	200774	HA																				
510060	100135	CB	03/08/71	G66	71	OLDS	CUTLA	22	350	8	0	1	0	2	1	1	1	72	52	24.82	4000	10
	200766	CB	09/28/71					4944										72	55	24.91		
	200766	HA																				
510061	100140	CB	03/09/71	G66	71	OLDS	F-85	21	350	8	0	1	0	2	1	1	1	72	52	24.90	4000	10
	200742	CA	09/13/71					4342										76	60	25.05		
	200742	HA																				
510084	100182	CB	03/16/71	G67	71	OLDS	DELTA	9	455	8	0	1	0	4	1	1	1	75	55	25.12	5000	11
	200745	CA	09/15/71					4027										66	52	25.05		
	200745	HA																				
510188	100348	CB	04/14/71	G67	71	OLDS	NINET	11	455	8	0	1	0	4	1	1	1	72	52	24.86	5000	11
	200793	CB	11/05/71					4136										70	54	24.95		
	200793	HA																				
510198	100350	CB	04/15/71	G67	71	OLDS	NINET	11	455	8	0	1	0	4	1	1	1	72	50	24.76	5000	11
	200686	CB	07/21/71					4883										78	67	25.95		
	200686	HA																				
510183	100327	CB	04/13/71	G73	71	OLDS	DELTA	12	455	8	0	1	0	2	1	1	1	70	52	25.28	5000	11
	200764	CB	09/24/71					4271										79	59	24.90		
	200764	HA																				
510023	100074	CB	02/23/71	G71	71	BUIC	SKYLA	23	350	8	0	1	0	4	1	1	1	73	53	24.78	4000	10
	200769	CB	09/28/71					4591										80	59	24.90		
	200769	HA																				
510024	100073	CB	02/23/71	G71	71	BUIC	GS350	15	350	8	0	1	0	4	1	1	1	72	53	24.78	4000	10
	200758	CB	09/23/71					6873										67	51	25.19		
	200758	HA																				
510029	100077	CB	02/24/71	G71	71	BUIC	SKYLA	18	350	8	0	1	0	4	1	1	1	73	55	24.77	4000	10
	200768	CB	09/28/71					5489										76	57	24.91		
	200768	HA																				

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510144	100285	CB	03/30/71	G74	71	BUIC	SKYLA	16	350	8	0	0	0	2	1	1	1	75	53	24.80	4000	10
	200788	CB	10/28/71					6599										72	59	24.90		
	200788	HA																				
510154	100297	CB	03/31/71	G74	71	BUIC	SKYLA	17	350	8	0	0	0	2	1	1	1	74	53	24.50	4000	10
	200767	CB	09/28/71					4691										76	57	24.91		
	200767	HA																				
510176	100321	CB	04/12/71	G74	71	BUIC	SKYLA	54	350	8	0	0	0	2	1	1	1	72	50	24.95	4000	10
	200746	CA	09/15/71					6664										66	49	25.01		
	200746	HA																				
510030	100080	CB	02/24/71	G75	71	BUIC	CENTU	18	455	8	0	1	0	4	1	1	1	72	52	24.72	5000	11
	200661	CB	07/07/71					4980										76	57	25.50		
	200661	HA																				
510035	100083	CB	02/25/71	G75	71	BUIC	GS445	17	455	8	0	1	0	4	1	1	1	73	55	24.51	4000	10
	200726	CA	09/07/71					6283										90	62	24.41		
	200726	HA																				
510193	100359	CB	04/15/71	G75	71	BUIC	LESAB	20	455	8	0	1	0	4	1	1	1	72	52	24.70	5000	11
	200761	CB	09/23/71					4304										76	54	25.13		
	200761	HA																				
510017	100041	CB	02/15/71	G76	71	CADI	DEVIL	21	472	8	0	1	0	4	1	2	1	72	55	24.78	5500	11
	200647	CB	06/29/71					4437										75	61	24.98		
	200647	HA																				
510088	100186	CB	03/16/71	G76	71	CADI	DEVIL	16	472	8	0	1	0	4	1	2	1	77	56	25.08	5500	11
	200634	CB	06/22/71					4539										87	60	25.02		
	200634	HA																				
510167	100317	CB	04/02/71	G78	71	CADI	ELDOR	21	500	8	0	1	0	4	1	2	1	75	50	25.05	5500	11
	200694	CB	07/23/71					4268										88	64	25.02		
	200694	HA																				
510021	100068	CB	02/20/71	V82	71	VOLK	SQBK	20	97	4	4	0	1	0	1	1	1	71	52	25.00	2500	7
	200646	CB	06/28/71					4062										72	62	24.90		
	200646	HA																				
510250	100435	CB	04/28/71	V82	71	VOLK	FTBK	20	97	4	4	0	1	0	1	1	1	70	54	24.77	2500	7
	200643	CB	06/25/71					4615										79	61	24.95		
	200643	HA																				
510280	100447	CB	04/29/71	V82	71	VOLK	FTBK	26	97	4	0	0	1	0	1	1	1	72	60	24.80	2500	7
	200732	CA	09/08/71					4289										78	61	25.06		
	200732	HA																				
510287	100463	CB	04/30/71	V82	71	VOLK	FTBK	24	97	4	0	0	1	0	1	1	1	71	57	25.10	2500	7
	200799	CB	11/19/71					4028										69	51	24.88		
	200799	HA																				
510005	100260	CB	03/25/71	V83	71	VOLK	SUPER	31	97	4	4	0	0	1	1	1	1	77	56	24.80	2250	6
	200693	CB	07/23/71					6243										84	66	25.04		
	200693	HA																				

1971 VEHICLE INFORMATION

DENVER CAR NO	RUN NO	ST	--DATE--	MFG YR	MAKE	MODEL	ODOMR	CID	CYL	TRN	A/C	FSO	BBL	PCV	EXH	EVP	DB	WB	BAROM	INER	HP
510117	100236	CB	03/23/71	V83	71	VOLK	BEETL	54	97	4	4	0	0	1	1	1	1	76	56	24.95	2250	6
	200649	CB	06/29/71					6228														
	200649	HA																75	61	24.96		
510160	100311	CB	04/01/71	V83	71	VOLK	BEETL	22	97	4	4	1	0	1	1	1	1	75	52	25.15	2250	6
	200683	CB	07/21/71					6290														
	200683	HA																78	67	24.95		
510163	100308	CB	04/01/71	V83	71	VOLK	SUPER	20	97	4	0	0	0	1	1	1	1	74	53	25.15	2250	6
	200668	CB	07/09/71					6894														
	200668	HA																74	61	25.13		
510171	100320	CB	04/02/71	V83	71	VOLK	BEETL	21	97	4	4	1	0	1	1	1	1	73	50	25.00	2250	6
	200723	CA	09/03/71					4756														
	200723	HA																80	57	24.30		
510229	100391	CB	04/22/71	V83	71	VOLK	KARMA	13	97	4	4	0	0	1	1	1	1	72	53	24.68	2250	6
	200779	CB	10/08/71					4156														
	200779	HA																71	55	25.10		
510240	100393	CB	04/22/71	V83	71	VOLK	BUS	45	97	4	4	0	0	1	1	1	1	72	53	24.68	3000	12
	200772	CB	10/05/71					6337														
	200772	HA																76	55	25.20		
510241	100398	CB	04/22/71	V83	71	VOLK	KARMA	14	97	4	4	0	0	1	1	1	1	72	53	24.72	2250	6
	200722	CA	09/03/71					6183														
	200722	HA																74	59	24.71		
510244	100407	CB	04/23/71	V83	71	VOLK	BEETL	12	97	4	4	0	0	1	1	1	1	72	56	24.90	2250	6
	200712	CA	08/31/71					5617														
	200712	HA																80	59	25.05		
510245	100408	CB	04/23/71	V83	71	VOLK	KARMA	13	97	4	4	0	0	1	1	1	1	72	56	24.90	2250	6
	200690	CB	07/23/71					5673														
	200690	HA																73	61	25.09		
510256	100423	CB	04/27/71	V83	71	VOLK	BEETL	23	97	4	4	0	0	1	1	1	1	70	53	24.70	2250	6
	200744	CA	09/14/71					6791														
	200744	HA																65	49	24.99		
510257	100424	CB	04/27/71	V83	71	VOLK	BEETL	22	97	4	0	0	0	1	1	1	1	70	53	24.70	2250	6
	200786	CB	10/22/71					4111														
	200786	HA																71	55	25.18		
510259	100445	CB	04/29/71	V83	71	VOLK	BEETL	14	97	4	4	0	0	1	1	1	1	72	60	24.80	2250	6
	200756	CB	09/22/71					4812														
	200756	HA																74	56	25.15		
510261	100425	CB	04/27/71	V83	71	VOLK	BEETL	49	97	4	4	0	0	1	1	1	1	70	53	24.70	2250	6
	200715	CA	09/01/71					6683														
	200715	HA																74	58	24.99		
510263	100456	CB	04/30/71	V83	71	VOLK	BEETL	14	97	4	4	0	0	1	1	1	1	71	57	25.05	2250	6
	200718	CA	09/01/71					6814														
	200718	HA																92	63	24.87		

1971 VEHICLE INFORMATION

DENVER CAR NO	RUN NO	ST	--DATE--	MFG YR	MAKE	MODEL	ODOMR	CID	CYL	TRN	A/C	FSO	BBL	PCV	EXH	EVP	DB	WB	BAROM	INER	HP
510269	100436	CB	04/28/71	VB3 71	VOLK	BEETL	23	97	4	4	0	0	1	1	1	1	70	54	24.77	2250	6
	200801	CB	11/22/71				4480										71	49	24.75		
	200801	HA																			
510274	100449	CB	04/29/71	VB3 71	VOLK	BUS	16	97	4	4	0	0	1	1	1	1	72	60	24.80	3000	12
	200749	CA	09/15/71				4963										76	55	24.91		
	200749	HA																			
510275	100448	CB	04/29/71	VB3 71	VOLK	BUS	16	97	4	4	0	0	1	1	1	1	72	60	24.80	3000	12
	200765	CB	09/24/71				4332										81	59	24.87		
	200765	HA																			
510212	100369	CB	04/20/71	VB4 71	VOLK	PORSC	23	103	4	5	0	1	0	1	1	1	72	54	24.56	2250	4
	200717	CA	09/01/71				6416										92	64	24.86		
	200717	HA																			

APPENDIX B

VEHICLE EMISSION TEST DATA TABLES

1. Legend and Interpretation of Vehicle Emission Test Data Tables

2. Tables:
   - B-1 Houston
   - B-2 Los Angeles
   - B-3 Detroit
   - B-4 Denver

LEGEND AND INTERPRETATION OF VEHICLE EMISSION TEST DATA TABLES

Key Words	Description
CAR NO	This is the number used to identify each vehicle and the location where test was conducted. The first number denotes the location. 2 = Houston, Texas 3 = Los Angeles, California 4 = Detroit, Michigan 5 = Denver, Colorado The last five numbers denote the identification number for each vehicle.
RUN NO	This is a sequential number assigned to each test. The first number denotes the phase of testing for all cities. 1 = Phase I, 2 = Phase 2.
CYCLE 7 IDLE	This represents the uncorrected emission values from the 7th cycle idle.
CYCLES 1-4	Represents corrected and weighted emission results from the four warmup cycles of the Federal 7-mode test.
CYCLES 6-7	This represents the corrected and weighted emission results of the hot cycles of the Federal 7-mode test.
COMPOSITE	This represents the corrected and weighted emission results of the entire Federal 7-mode test as measured in parts per million (volume) for hydrocarbons and nitrogen oxides as dry NO, and in percent (volume) for carbon monoxide.
MASS	This represents the composite emission results of the entire Federal 7-mode test expressed in grams per mile for hydrocarbons, carbon monoxide, and nitrogen oxides as dry NO, corrected for humidity.
HUCF	Humidity correction factor as calculated from the wet and dry bulb temperatures and the barometric pressure.

TABLE B-1

Houston

HOUSTON

1971 VEHICLE TEST DATA

CAR NO	RUN NO	-----CYCLE 7 IDLE----- HC	CO	NO	CO2	----CYCLE 1-4--- HC	CO	NO	----CYCLE 6-7--- HC	CO	NO	----COMPOSITE--- HC	CO	NO	----------MASS---------- HC	CO	NOXC	HUCF
210007	100957	98	1.94	122	12.01	166	2.50	568	135	2.68	678	145	2.61	639	1.34	45.36	1.86	1.02
	202246	83	0.90	129	13.34	293	1.44	992	231	0.99	1284	252	1.14	1181	2.33	19.81	3.32	0.99
	202246	104	1.17	241	13.80				230	0.80	1284							
210016	100964	147	0.25	197	13.07	158	0.66	766	116	0.29	1069	130	0.41	962	1.33	7.91	2.96	0.97
	201451	276	4.67	56	9.13	342	1.90	746	284	1.01	1090	304	1.32	969	3.12	25.48	3.73	1.22
	201451	199	2.55	93	13.51				160	0.56	594							
210080	101036	64	0.24	89	12.73	197	2.61	610	173	3.52	480	181	3.20	525	1.67	55.62	1.45	0.97
	202122	59	0.40	154	13.99	211	2.20	959	193	2.51	963	199	2.40	961	1.84	41.71	2.86	1.05
	202122	71	0.36	103	13.86				238	1.65	1118							
210157	101169	199	3.11	115	12.02	346	2.20	751	290	1.35	971	309	1.64	894	3.17	31.66	3.05	1.08
	202158	230	4.87	91	11.47	192	1.51	1567	150	1.32	2040	164	1.38	1874	1.68	26.64	6.07	1.02
	202158	80	0.33	176	13.82				75	0.23	1281							
210162	101177	143	1.67	166	13.43	151	1.19	963	93	0.55	1362	113	0.77	1222	1.16	14.86	4.16	1.08
	202238	112	0.15	213	14.10	191	0.96	1013	122	0.23	1453	146	0.48	1298	1.50	9.26	4.01	0.98
	202238	108	0.14	211	14.06				123	0.24	1558							
210265	101497	291	5.03	78	11.17	264	2.26	1292	215	1.89	1492	232	2.01	1422	2.38	38.81	4.88	1.08
	201946	235	4.34	75	11.93	267	2.61	1221	204	1.94	1243	226	2.17	1235	2.32	41.89	5.45	1.40
	201946	128	0.49	190	14.24				142	0.73	1375							
210266	101498	251	4.04	98	11.97	228	2.40	1257	179	1.67	1441	195	1.92	1376	2.00	37.07	4.78	1.10
	201948	242	4.52	93	11.91	244	2.12	1271	208	1.99	1312	220	2.03	1297	2.26	39.19	6.05	1.48
	201948	112	0.64	155	14.00				136	0.84	1023							
210034	100987	126	2.40	130	12.81	173	2.12	872	128	1.83	803	143	1.93	827	1.81	45.97	3.09	0.96
	202250	160	0.24	132	13.56	249	1.38	1653	196	0.49	2023	214	0.80	1893	2.71	19.05	7.94	1.07
	202250	160	0.23	137	13.77				181	0.47	1966							
210042	100995	196	2.38	98	13.88	203	2.02	855	158	1.09	1302	173	1.41	1145	2.19	33.58	4.22	0.94
	202141	189	3.36	100	12.48	244	2.20	1393	195	1.27	1653	212	1.59	1561	2.68	37.87	5.99	0.98
	202141	122	0.77	161	13.69				173	0.57	2002							
210C02	100950	131	0.55	112	12.50	281	2.30	1287	283	1.51	1441	282	1.78	1387	3.26	38.68	4.70	0.95
	202109	64	0.10	51	10.88	338	1.47	1201	386	0.81	1325	369	1.04	1281	4.27	22.60	4.99	1.09
	202109	76	0.69	103	13.38				234	1.07	1337							
210C84	101040	215	5.15	70	10.32	211	2.36	2028	176	1.94	1920	188	2.08	1957	2.17	45.19	6.63	0.95
	202199	234	4.55	126	10.38	352	3.15	2126	201	1.20	2770	253	1.88	2544	2.92	40.85	8.98	0.99
	202199	108	0.35	478	13.15				131	0.51	2491							
210092	101050	189	4.90	89	10.61	209	2.77	1714	160	1.86	2025	177	2.17	1916	2.04	47.15	6.42	0.94
	201994	231	6.29	92	10.54	276	2.82	1822	196	1.96	1993	224	2.26	1933	2.59	49.11	7.74	1.12
	201994	114	0.79	165	13.89				156	0.65	2002							
210015	100939	109	2.11	145	12.64	148	1.91	1057	83	0.71	1420	105	1.12	1292	1.33	26.67	4.83	0.96
	202229	273	6.21	84	10.49	267	2.46	1639	198	1.51	2135	222	1.84	1961	2.81	43.83	7.92	1.03
	202229	115	2.02	164	13.29				121	0.53	1819							
210040	100993	107	2.39	107	12.90	114	0.91	1106	86	0.76	1393	95	0.81	1292	1.20	19.28	4.81	0.95
	202244	193	7.22	89	10.02	235	2.78	1202	159	1.94	1727	185	2.23	1543	2.34	53.12	5.96	0.99
	202244	135	2.11	111	13.34				139	0.52	1656							

HOUSTON

1971 VEHICLE TEST DATA

CAR NO	RUN NO	CYCLE 7 IDLE HC	CO	NO	CO2	CYCLE 1-4 HC	CO	NO	CYCLE 6-7 HC	CO	NO	COMPOSITE HC	CO	NO	MASS HC	CO	NOXC	HUCF
210134	101142	138	2.25	283	12.62	130	1.07	1183	105	1.03	1330	113	1.04	1311	1.53	26.60	5.30	0.96
	202180	148	1.35	82	13.30	249	1.12	996	226	0.71	1211	234	0.85	1135	3.18	21.74	4.67	0.98
	202180	98	1.36	120	13.10				163	0.69	1403							
210053	101006	144	2.93	105	12.69	178	2.25	441	123	1.21	611	142	1.57	551	1.64	34.11	1.86	0.95
	202174	311	6.95	56	9.86	374	3.77	805	254	2.15	1139	296	2.71	1022	3.42	58.89	3.78	1.04
	202174	108	0.56	109	13.81				171	0.47	1354							
210048	101001	210	2.19	68	11.89	188	2.51	584	117	1.21	899	141	1.66	788	1.92	42.46	3.28	0.99
	202242	269	6.64	57	9.64	323	5.12	725	224	3.45	1011	258	4.03	910	3.51	103.08	3.44	0.90
	202242	130	1.47	86	12.99				127	0.78	1503							
210072	101027	188	3.19	61	11.46	180	2.75	367	138	1.51	705	153	1.94	587	2.08	49.63	2.31	0.94
	202152	201	4.99	49	10.91	281	3.95	787	198	2.70	972	227	3.13	907	3.09	80.06	3.64	0.96
	202152	102	1.08	78	12.92				120	0.75	1434							
210274	101805	364	2.44	78	11.66	230	3.03	260	144	1.51	345	174	2.04	315	2.37	52.18	1.73	1.31
	202185	92	0.97	131	13.99	159	2.52	560	91	0.91	853	114	1.47	750	1.55	37.60	3.17	1.01
	202185	86	0.53	117	13.30				84	0.52	947							
210246	101368	244	5.47	84	11.26	247	1.85	1348	169	1.45	1364	196	1.58	1358	1.41	21.45	2.88	0.95
	201940	1729	11.84	41	6.33	890	7.89	271	848	6.95	406	862	7.27	358	6.23	98.73	0.99	1.26
	201940	291	9.24	82	9.08				311	3.37	1259							
210169	101223	220	6.09	86	12.27	215	1.75	1576	142	1.12	1656	167	1.34	1628	1.47	22.18	4.29	0.97
	202236	311	7.93	99	9.84	321	2.17	2210	296	2.80	2082	304	2.57	2126	2.68	42.54	5.56	0.96
	202236	159	1.24	214	13.01				203	0.61	2130							
210173	101236	204	5.17	84	12.30	239	2.12	1509	138	1.11	1879	173	1.46	1749	1.53	24.17	4.54	0.96
	202160	326	7.37	73	10.30	359	2.15	2356	231	1.28	2650	275	1.58	2547	2.42	26.16	6.69	0.97
	202160	178	4.12	118	12.14				150	0.75	1923							
210247	101369	304	9.20	59	9.09	360	4.92	1011	210	2.78	1499	262	3.52	1328	1.89	47.80	2.86	0.97
	201938	849	9.94	37	7.01	582	5.36	687	602	5.80	628	595	5.64	648	4.30	76.60	1.60	1.12
	201938	683	10.68	57	6.62				476	5.73	646							
210279	101817	253	5.25	148	11.45	287	2.08	1746	210	2.01	1665	236	2.03	1693	2.08	33.60	5.62	1.22
	202139	398	4.21	291	12.07	368	2.28	1922	316	1.58	2271	334	1.82	2148	2.94	30.13	6.74	1.16
	202139	199	1.15	209	13.94				268	0.80	2589							
210218	101295	87	0.53	226	8.51	187	0.77	2107	146	0.36	2492	160	0.50	2357	1.64	9.65	8.07	1.08
	202107	222	5.38	131	11.64	265	1.62	2086	207	1.51	2282	227	1.54	2213	2.33	29.73	7.62	1.09
	202107	181	2.77	193	13.33				201	0.53	2811							
210174	101237	221	5.68	105	11.27	232	2.28	538	129	1.31	732	165	1.64	664	1.90	35.64	2.25	0.95
	202098	209	6.67	100	10.73	227	2.26	574	139	1.81	718	169	1.96	667	1.95	42.59	2.54	1.07
	202098	134	1.83	207	13.63				127	0.50	843							
210175	101238	140	1.55	210	13.79	184	1.73	611	102	0.53	788	130	0.94	726	1.50	20.42	2.51	0.98
	202076	158	2.24	202	13.36	211	1.19	788	164	0.74	918	180	0.89	872	2.08	19.33	3.32	1.07
	202076	140	1.44	223	13.75				172	0.65	964							
210204	101280	223	5.57	95	11.43	236	1.71	692	176	1.27	1010	197	1.42	898	2.28	30.85	3.28	1.03
	202000	278	5.09	100	11.68	349	1.75	815	284	1.36	1051	306	1.49	968	3.54	32.38	4.69	1.36
	202000	161	0.65	222	13.88				263	0.42	1171							

HOUSTON

1971 VEHICLE TEST DATA

CAR NO	RUN NO	CYCLE 7 IDLE HC	CO	NO	CO2	CYCLE 1-4 HC	CO	NO	CYCLE 6-7 HC	CO	NO	COMPOSITE HC	CO	NO	MASS HC	CO	NOXC	HUCF
210207	101283	200	0.93	189	13.88	220	0.94	945	173	0.40	1184	189	0.58	1100	2.18	12.60	4.04	1.03
	202119	197	0.32	215	14.06	317	0.90	964	266	0.30	1210	283	0.51	1123	3.27	11.08	4.77	1.19
	202119	251	2.01	155	13.55				248	0.57	1321							
210208	101284	234	6.21	99	11.82	247	2.06	853	178	1.66	1009	202	1.80	954	2.33	39.11	3.50	1.03
	202017	263	7.19	84	10.41	318	2.43	949	242	2.12	1127	268	2.22	1064	3.10	48.24	3.84	1.01
	202017	173	3.03	127	13.05				191	1.06	1203							
210170	101225	191	5.06	100	12.19	228	2.28	1097	127	1.01	1400	162	1.45	1293	2.20	37.08	5.28	0.97
	201942	167	4.67	96	11.66	189	1.02	1453	166	1.26	1521	174	1.17	1497	2.37	29.92	8.70	1.39
	201942	175	4.28	92	12.30				152	0.97	1509							
210213	101290	95	0.86	177	13.77	236	1.84	966	132	0.43	1774	168	0.92	1491	1.91	19.73	5.03	0.96
	202213	175	4.30	91	12.30	589	2.44	972	283	1.19	1465	390	1.62	1292	4.45	34.75	5.02	1.11
	202213	93	1.70	111	13.94				243	0.74	1568							
210179	101245	159	1.73	161	13.78	156	1.11	1023	106	0.44	1364	123	0.67	1244	1.67	17.13	5.21	1.00
	202197	287	5.52	139	11.61	263	1.99	1269	222	1.34	1506	236	1.56	1423	3.21	39.90	5.93	0.98
	202197	130	0.86	248	14.14				122	0.42	1969							
210143	101155	134	2.93	229	12.07	160	3.43	747	109	2.20	909	126	2.63	852	1.11	43.53	2.50	1.09
	202137	107	0.66	-158	13.85	104	0.70	-844	146	1.50	-752	131	1.22	-784	1.15	20.19	-5.32	1.14
	202137	254	4.33	188	11.89				198	2.94	1109							
210264	101493	248	0.41	101	13.14	157	1.16	549	129	0.52	695	138	0.74	643	1.09	11.02	1.64	1.05
	202039	172	8.37	87	9.69	312	5.03	535	294	4.68	620	300	4.80	590	2.38	71.51	1.61	1.12
	202039	72	0.77	142	13.81				352	2.39	825							
210138	101147	132	2.32	123	11.82	190	2.03	959	108	1.06	1148	136	1.39	1081	1.55	29.75	4.04	1.06
	202115	270	4.72	51	12.03	222	2.84	638	151	1.03	901	175	1.66	808	1.99	35.61	3.24	1.14
	202115	118	1.38	172	13.78				159	0.77	993							
210139	101148	220	1.48	120	13.05	201	0.96	710	158	0.44	923	173	0.62	848	1.97	13.27	3.15	1.06
	202078	121	0.68	93	13.74	196	0.53	967	168	0.29	1025	177	0.37	1004	2.02	7.93	3.94	1.12
	202078	167	0.37	100	13.62				186	0.27	1086							
210096	101060	220	3.28	109	11.98	161	1.34	672	99	0.54	867	120	0.82	798	1.38	17.82	2.73	0.96
	202240	439	3.79	190	12.65	346	2.05	1279	269	1.27	1478	295	1.54	1408	3.41	33.46	4.59	0.91
	202240	332	1.38	162	13.93				220	0.85	1377							
210107	101100	186	2.08	164	12.52	143	0.87	543	96	0.47	707	112	0.60	649	1.29	13.03	2.25	0.97
	202248	313	2.18	407	13.30	229	0.83	1127	189	0.60	1461	202	0.68	1344	2.33	14.77	5.10	1.07
	202248	355	4.89	104	11.82				149	0.76	919							
210123	101127	214	3.22	101	12.29	132	0.72	567	109	0.83	711	117	0.79	660	1.35	17.16	2.44	1.04
	202060	379	5.92	85	10.78	266	1.05	727	245	1.33	884	252	1.23	829	2.91	26.72	3.68	1.25
	202060	203	2.39	78	13.04				177	0.51	721							
210203	101279	81	0.51	234	13.84	131	0.88	607	121	0.66	832	124	0.73	753	1.29	14.28	2.50	1.04
	201978	402	5.48	63	10.77	314	0.96	1202	297	0.91	1257	302	0.92	1237	3.14	18.00	4.44	1.12
	201978	477	5.92	56	10.78				311	0.89	1492							
210148	101160	93	0.16	142	13.18	170	0.39	792	135	0.48	771	147	0.44	778	1.80	10.13	2.77	0.94
	202170	216	0.50	80	12.45	306	1.31	1007	239	0.57	1267	262	0.82	1175	3.21	18.89	4.72	1.06
	202170	97	0.26	68	13.61				251	0.60	1163							

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210005	100954	76	0.14	318	13.83	77	1.09	529	42	0.31	674	54	0.58	623	0.73	14.83	2.52	0.97
	201333	95	0.38	499	14.04	101	1.61	597	47	0.22	811	65	0.70	736	0.88	17.90	2.97	0.96
	201333	0	0.0	0	0.0				0	0.0	0							
210149	101161	205	3.47	101	12.59	134	1.67	488	95	0.99	575	108	1.22	544	1.24	26.51	2.00	1.04
	202103	172	3.03	203	12.90	121	1.30	521	90	1.05	675	100	1.13	621	1.15	24.55	2.35	1.07
	202103	247	4.54	95	12.03				112	1.30	633							
210212	101289	143	0.49	268	15.61	145	2.50	547	78	0.65	687	101	1.29	637	1.37	32.99	2.86	1.08
	202166	143	0.44	283	14.07	165	2.51	856	86	0.45	1076	113	1.17	999	1.53	29.92	4.23	1.01
	202166	108	0.26	265	14.23				66	0.45	857							
210241	101347	218	4.71	113	11.85	141	2.70	626	125	1.93	852	130	2.19	772	1.77	56.02	3.45	1.07
	202178	282	3.57	154	12.58	281	3.79	926	163	1.31	1348	204	2.17	1200	2.77	55.50	4.84	0.96
	202178	226	1.86	212	13.37				134	0.90	1257							
210254	101382	66	0.30	282	13.40	101	1.00	597	48	0.37	682	66	0.59	652	0.89	15.08	2.66	0.98
	202041	90	0.84	191	14.24	88	0.81	540	76	0.63	616	80	0.69	589	1.08	17.64	3.18	1.29
	202041	90	0.73	222	13.96				72	0.63	602							
210231	101321	51	0.65	155	13.27	43	0.59	525	34	0.43	652	37	0.48	607	0.53	12.95	2.55	0.95
	202129	207	0.14	122	12.50	83	0.32	585	90	0.25	632	87	0.27	615	1.25	7.28	2.95	1.08
	202129	51	0.12	129	12.75				91	0.19	625							
210234	101327	69	0.95	144	12.86	51	0.59	502	47	0.47	663	48	0.51	606	0.68	13.76	2.68	1.00
	201950	74	0.53	82	12.96	63	0.34	450	68	0.30	489	66	0.31	475	0.94	8.36	2.53	1.21
	201950	0	0.0	0	0.0				0	0.0	0							
210238	101343	100	0.97	119	12.75	70	0.60	509	66	0.53	597	67	0.55	566	0.96	14.85	2.56	1.02
	201972	208	1.70	155	13.22	158	0.49	1044	151	0.42	1295	153	0.44	1207	2.20	11.87	6.32	1.18
	201972	189	1.17	149	13.71				152	0.35	1337							
210281	101837	107	0.12	151	13.17	72	0.25	449	66	0.21	583	67	0.23	531	0.83	5.48	2.47	1.19
	202252	181	3.44	105	12.96	100	0.70	734	82	0.69	854	88	0.69	812	1.11	16.43	3.44	1.09
	202252	105	0.72	146	14.03				84	0.28	1121							
210102	101077	106	1.19	151	13.70	69	0.76	657	55	0.48	769	59	0.57	729	0.84	15.39	3.14	0.97
	201982	340	8.14	61	9.84	243	2.27	507	209	2.25	517	220	2.25	513	3.16	60.75	2.94	1.30
	201982	166	1.68	125	13.60				168	1.27	549							
210101	101076	118	1.15	197	13.12	110	1.61	559	82	1.11	692	91	1.28	645	1.15	30.49	2.39	0.95
	202143	139	1.69	147	13.17	70	0.91	649	60	0.57	674	63	0.68	665	0.79	16.19	2.55	0.98
	202143	129	1.74	216	13.31				48	0.60	698							
210122	101126	99	1.45	84	12.62	84	0.84	466	72	0.46	541	76	0.59	514	1.09	15.92	2.36	1.04
	201977	161	2.75	79	12.81	126	0.94	518	99	0.60	519	108	0.71	518	1.55	19.16	2.59	1.13
	201977	0	0.0	0	0.0				0	0.0	0							
210127	101132	63	0.48	112	13.78	57	0.82	442	46	0.35	539	49	0.51	505	0.70	13.76	2.18	0.98
	202019	131	2.74	90	12.92	106	1.82	514	61	0.56	580	76	1.00	556	1.09	27.00	2.63	1.07
	202019	0	0.0	0	0.0				0	0.0	0							
210136	101144	39	0.21	86	11.49	63	1.22	356	36	0.30	505	45	0.62	452	0.67	17.41	2.02	0.97
	201507	44	0.39	130	11.97	76	0.77	550	51	0.36	737	59	0.50	671	0.87	14.04	3.27	1.06
	201507	41	0.33	170	12.12				53	0.25	855							

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210099	101070	107	0.80	277	13.92	249	2.38	1703	134	1.08	1434	150	1.10	1424	1.32	18.20	3.84	0.95
	202113	124	2.00	274	13.39	182	1.15	1406	133	1.60	1111	150	1.44	1214	1.32	23.83	3.28	0.99
	202113	124	2.00	274	13.39				133	1.60	1111							
210153	101165	446	1.74	79	9.93	295	1.30	1209	270	0.80	1182	278	0.97	1191	2.20	14.44	2.92	1.00
	202081	154	0.77	88	12.89	391	1.25	1287	248	0.44	1446	298	0.72	1390	2.36	10.72	3.78	1.12
	202081	146	1.36	95	12.39				236	0.54	1400							
210167	101221	206	1.49	101	14.24	298	1.60	1450	196	0.52	1484	231	0.89	1472	1.83	13.25	3.46	0.96
	201944	167	0.44	112	13.08	332	1.30	1297	219	0.73	1201	258	0.92	1234	2.04	13.70	3.68	1.22
	201944	0	0.0	0	0.0				0	0.0	0							
210010	100960	110	1.61	52	7.19	299	2.99	1023	153	2.93	1036	204	2.95	1031	1.47	40.06	2.30	1.01
	201970	293	5.81	77	10.62	375	4.13	647	241	4.33	600	287	4.25	616	2.07	57.71	1.56	1.14
	201970	222	2.76	89	12.62				209	3.35	599							
210105	101080	102	2.71	76	9.48	259	3.05	1164	118	2.35	1084	167	2.59	1112	1.20	35.17	2.39	0.97
	201976	257	3.02	92	11.23	295	2.28	1066	261	2.67	988	272	2.53	1015	1.96	34.35	2.77	1.23
	201976	0	0.0	0	0.0				0	0.0	0							
210111	101109	122	1.90	58	6.62	269	2.33	1022	177	2.29	1103	209	2.30	1074	1.51	31.23	2.32	0.97
	202030	176	4.15	72	9.83	470	2.90	971	353	3.35	891	393	3.19	918	2.84	43.32	2.43	1.19
	202030	153	3.58	88	11.48				271	3.37	732							
210119	101123	199	5.48	53	6.06	360	4.05	710	172	4.11	784	237	4.08	758	1.71	55.40	1.68	1.00
	201580	317	6.59	67	7.13	444	4.64	553	330	4.60	634	369	4.61	605	2.67	62.60	1.40	1.05
	201580	290	6.48	46	6.68				256	4.48	579							
210219	101296	103	0.59	95	8.74	231	2.18	1137	145	0.87	1425	175	1.32	1324	1.40	19.86	3.52	1.08
	202029	219	1.15	179	11.99	282	1.40	1735	232	1.34	1625	249	1.36	1663	1.99	20.46	4.77	1.16
	202029	0	0.0	0	0.0				0	0.0	0							
210270	101768	176	2.51	125	12.60	220	1.23	1434	158	1.08	1619	179	1.13	1554	1.29	15.34	4.09	1.19
	202168	158	2.84	120	11.51	288	1.71	1894	188	1.07	1781	223	1.29	1820	1.61	17.45	4.11	1.02
	202168	235	1.54	182	11.76				164	0.86	1885							

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310012	100273	100	1.48	157	12.53	73	0.72	724	51	0.39	839	58	0.50	798	0.59	9.65	2.36	0.94
	203777	200	4.83	96	11.10	196	1.17	980	165	0.78	1261	175	0.91	1162	1.80	17.59	3.35	0.91
	203777	107	0.95	149	13.37				81	0.38	794							
310096	101269	147	3.09	111	12.15	119	1.18	974	85	0.76	1001	96	0.90	991	0.98	17.37	3.18	1.02
	204028	102	2.81	138	11.94	161	1.53	1353	124	0.96	1679	136	1.15	1564	1.40	22.23	4.47	0.90
	204028	70	2.73	138	11.95				94	1.23	1767							
310098	101601	155	3.27	124	11.99	121	1.33	957	100	1.01	1056	107	1.12	1021	1.10	21.62	2.84	0.88
	204054	239	6.02	120	10.15	259	3.12	1252	176	1.71	1305	205	2.70	1286	2.11	42.54	3.61	0.89
	204054	195	5.17	131	10.70				125	1.56	1008							
310290	101218	100	0.08	104	10.21	85	0.46	714	54	0.26	691	64	0.33	699	0.65	6.36	2.31	1.05
	204280	142	3.28	143	12.37	119	1.75	1046	102	1.08	1239	107	1.31	1171	1.10	25.29	3.51	0.95
	204280	147	2.95	140	12.38				112	1.15	962							
310230	100948	87	0.10	123	12.56	141	0.50	545	165	0.23	594	156	0.32	576	1.60	6.17	1.65	0.91
	201711	363	10.71	39	7.08	250	2.79	507	184	2.51	554	207	2.60	537	2.12	50.20	1.61	0.95
	201711	191	9.00	46	8.01				106	2.52	702							
310206	100946	183	2.53	125	12.98	107	0.73	455	88	0.62	565	94	0.65	526	0.96	12.55	1.51	0.92
	204346	163	3.92	143	12.39	196	2.28	622	100	1.14	648	133	1.53	639	1.36	29.53	1.89	0.94
	204346	114	1.29	775	13.30				109	1.21	622							
310208	100914	191	1.64	151	13.54	126	0.86	516	110	0.66	656	115	0.73	607	1.18	14.09	1.78	0.93
	204306	171	2.38	160	13.11	146	1.47	588	125	1.23	618	132	1.31	607	1.35	25.29	1.85	0.96
	204306	155	2.23	145	13.00				108	0.96	731							
310009	100233	161	1.42	115	13.43	129	0.75	712	105	0.46	1112	113	0.56	972	1.43	13.33	3.27	0.86
	202817	105	0.11	136	12.97	167	0.30	772	139	0.14	865	148	0.20	832	1.87	4.76	3.21	0.99
	202817	116	0.09	111	12.51				141	0.12	979							
310220	100862	207	5.30	93	10.01	240	3.05	1218	146	1.90	1143	178	2.30	1169	2.06	49.98	3.95	0.95
	204394	153	1.53	409	12.65	160	1.71	1905	128	0.51	2061	139	0.92	2006	1.60	19.99	6.00	0.84
	204394	137	1.05	245	12.65				124	0.46	1580							
310360	101539	173	3.01	87	11.19	167	1.66	1209	144	1.02	1158	152	1.24	1175	1.56	23.94	3.48	0.94
	204175	191	7.18	147	9.74	189	2.88	930	140	2.22	1040	157	2.45	1001	1.61	47.37	2.98	0.94
	204175	42	1.48	393	13.04				94	0.52	869							
310021	100529	135	3.81	96	11.71	164	2.26	888	90	1.49	763	115	1.75	806	1.45	41.68	2.91	0.93
	203564	79	0.10	174	13.43	151	1.23	843	84	0.19	857	107	0.55	852	1.36	13.13	3.05	0.92
	203564	80	0.10	143	12.68				83	0.24	742							
310026	100490	150	5.08	139	11.18	135	1.88	728	104	1.69	825	114	1.75	791	1.44	41.68	3.14	1.02
	202037	149	3.43	107	12.40	160	1.98	702	126	1.62	820	137	1.74	778	1.73	41.45	2.87	0.95
	202037	101	2.76	126	12.83				89	1.20	796							
310027	100499	269	6.08	63	9.98	117	1.42	568	215	4.42	146	180	3.37	293	2.45	86.19	1.16	0.96
	202370	94	0.47	204	14.11	147	0.58	1552	108	0.37	1521	122	0.44	1532	1.66	11.20	6.02	0.94
	202370	88	0.73	234	14.46				81	0.43	1058							
310028	100521	145	5.51	115	10.74	168	2.28	995	116	2.60	660	134	2.48	777	1.82	63.43	3.01	0.93
	202588	88	1.08	9	13.76	104	0.96	532	93	0.98	624	96	0.98	591	1.30	25.06	2.37	0.96
	202588	62	0.33	1	14.21				76	0.62	558							

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310039	100531	135	4.83	134	11.17	110	1.71	791	76	1.33	947	87	1.46	892	1.18	37.34	3.44	0.92
	204399	243	9.03	125	8.71	197	3.64	1230	174	4.23	840	182	4.02	976	2.47	102.83	3.49	0.85
	204399	238	8.56	130	8.73				169	3.45	949							
310056	100476	134	0.11	106	10.91	198	0.27	654	155	0.20	611	170	0.22	626	1.96	4.77	2.06	0.93
	201642	128	2.91	112	12.62	105	0.84	761	75	0.78	723	85	0.80	736	0.98	17.38	2.46	0.94
	201642	122	1.06	127	13.25				140	0.47	639							
310156	100654	49	0.16	233	13.62	70	0.36	979	48	0.20	1160	55	0.25	1096	0.69	5.95	4.09	0.96
	202621	30	0.10	154	14.27	75	0.55	550	43	0.19	726	54	0.31	664	0.68	7.38	2.59	1.00
	202621	34	0.12	117	14.12				58	0.24	742							
310040	100532	92	1.46	125	12.81	115	1.63	753	81	1.00	835	92	1.22	806	1.32	32.94	3.26	0.91
	203119	154	6.54	118	10.63	197	3.53	501	127	2.22	908	151	2.67	765	2.17	72.32	3.42	1.01
	203119	168	5.56	113	11.40				109	2.04	729							
310041	100519	108	3.10	124	12.37	120	1.48	648	76	1.16	735	91	1.27	704	1.30	34.28	2.90	0.93
	202162	88	1.86	115	12.64	100	0.94	749	88	0.78	823	92	0.83	797	1.32	22.41	3.41	0.97
	202162	310	0.35	127	12.26				175	0.28	794							
310043	100443	1222	2.90	135	11.34	436	0.79	771	608	1.01	920	547	0.93	867	7.86	25.11	3.48	0.91
	202955	307	5.12	116	10.77	222	1.92	623	198	1.75	657	206	1.80	645	2.96	48.40	3.00	1.05
	202955	172	0.17	113	13.07				159	0.45	721							
310114	100613	207	5.18	131	11.72	176	1.84	1256	156	1.79	1347	163	1.80	1315	2.06	42.87	5.00	0.97
	202867	104	1.18	174	12.84	163	0.78	1770	141	0.59	2062	148	0.65	1959	1.87	15.48	7.78	1.02
	202867	78	0.33	300	13.05				126	0.47	2437							
310234	101039	62	0.93	126	13.98	68	0.78	682	50	0.80	655	56	0.79	664	0.76	20.20	2.51	0.90
	204068	105	6.46	142	10.88	122	2.41	877	73	1.76	881	90	1.98	879	1.22	50.77	3.36	0.91
	204068	100	5.83	139	11.18				76	2.12	962							
310051	100445	66	0.84	189	14.14	73	1.26	645	42	0.49	783	52	0.75	734	0.74	20.25	2.92	0.90
	202367	99	2.09	99	12.66	108	1.10	848	91	0.55	737	96	0.74	775	1.38	19.98	3.26	0.95
	202367	104	0.37	104	13.69				77	0.32	614							
310030	100450	83	2.86	99	11.98	126	1.25	687	63	0.81	557	85	0.96	602	0.88	18.78	1.74	0.90
	202053	125	4.42	58	11.03	142	2.18	297	132	1.81	374	135	1.93	347	1.40	37.76	1.05	0.95
	202053	103	2.78	75	11.67				152	0.79	492							
310033	100456	116	3.78	101	12.06	119	1.10	1420	89	1.00	1638	99	1.03	1561	1.34	26.34	5.97	0.91
	201949	94	1.03	183	14.21	132	0.75	1466	110	0.51	1785	117	0.59	1673	1.59	15.08	6.37	0.91
	201949	0	0.0	0	0.0				0	0.0	0							
310034	100513	86	1.26	112	13.94	82	1.12	852	57	0.57	912	65	0.76	891	0.88	19.43	3.57	0.96
	202161	62	0.31	174	14.58	75	0.52	1081	71	0.38	1130	72	0.42	1112	0.98	10.73	4.49	0.96
	202161	56	0.21	213	14.42				68	0.41	1074							
310035	100488	111	3.92	127	11.78	176	2.87	1066	88	1.87	853	118	2.21	927	1.60	56.53	3.91	1.01
	203354	110	3.71	124	12.57	146	2.44	832	94	1.70	922	112	1.95	890	1.52	50.00	3.80	1.01
	203354	96	3.24	130	12.86				89	1.65	900							
310036	100457	102	3.32	95	12.63	169	2.94	1005	96	1.57	1220	121	2.04	1144	1.64	52.18	4.43	0.92
	202713	200	5.69	120	10.95	492	4.36	1051	176	2.06	1387	286	2.86	1269	3.89	73.15	5.67	1.07
	202713	92	0.37	173	13.81				123	0.43	1639							

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310046	100471	127	3.75	114	11.73	140	1.41	929	122	1.88	1051	128	1.71	1008	1.74	43.73	4.02	0.95
	203755	202	5.45	110	10.02	198	3.30	729	152	2.31	911	168	2.65	847	2.29	67.96	3.14	0.88
	203755	97	1.36	125	12.58				98	0.71	1007							
310317	101267	217	0.20	79	11.96	135	1.00	707	100	0.28	987	112	0.53	888	1.52	13.55	3.69	0.99
	203137	100	1.45	110	13.06	141	2.02	568	95	1.07	873	111	1.40	766	1.51	35.90	3.52	1.10
	203137	84	2.67	109	12.45				105	2.19	607							
310087	100566	124	3.15	109	12.51	160	1.28	1224	110	1.04	1320	127	1.12	1286	1.82	30.24	5.67	1.00
	204305	190	4.69	128	11.64	250	4.72	513	169	2.80	756	197	3.47	670	2.83	93.70	2.87	0.97
	204305	177	4.20	121	11.57				159	2.64	786							
310267	101286	92	1.42	155	14.16	169	0.94	1062	96	0.53	1053	121	0.67	1056	0.87	9.09	2.16	0.92
	204485	175	7.37	152	10.48	244	1.53	1761	203	1.62	1644	217	1.58	1684	1.56	21.45	3.45	0.92
	204485	161	7.00	135	10.63				182	1.69	1889							
310015	100334	215	6.15	108	10.95	167	1.66	1008	125	1.33	880	139	1.44	924	1.22	23.83	2.20	0.88
	201608	255	7.92	107	9.96	238	2.00	1187	185	1.68	1096	203	1.79	1127	1.79	29.63	2.89	0.95
	201608	206	2.22	116	13.63				154	0.69	1404							
310016	100333	246	6.07	105	10.91	180	1.74	1027	114	1.21	852	137	1.39	913	1.20	23.01	2.17	0.88
	201609	296	8.32	84	9.60	240	2.15	1065	185	1.54	990	204	1.75	1016	1.79	28.97	2.62	0.95
	201609	224	2.49	119	13.29				104	0.53	618							
310093	101243	149	3.41	101	7.45	203	1.41	1215	137	1.07	1350	160	1.18	1302	1.41	19.53	3.42	0.97
	204091	327	9.15	117	9.58	329	2.54	2029	244	1.76	2427	273	2.03	2287	2.41	33.60	6.08	0.98
	204091	213	1.80	212	13.71				217	0.80	1982							
310266	101117	154	1.61	385	13.29	157	0.84	1253	105	0.42	1445	123	0.56	1377	1.26	10.81	3.60	0.83
	202754	188	5.23	139	11.46	143	1.24	1032	113	0.99	1176	123	1.07	1125	1.26	20.65	3.73	1.05
	202754	115	0.93	200	13.53				106	0.31	1110							
310014	100335	123	0.66	256	14.41	182	0.90	795	115	0.32	1004	138	0.52	930	1.59	11.29	2.89	0.87
	201359	85	0.59	211	14.81	147	0.63	1035	97	0.30	1025	114	0.41	1028	1.31	8.90	3.51	0.96
	201359	163	0.30	300	13.59				212	0.28	1519							
310162	100673	109	0.12	368	13.45	88	0.50	719	72	0.21	835	77	0.31	794	0.97	7.38	2.97	0.96
	202602	78	0.42	582	14.39	80	0.58	1031	58	0.29	1284	65	0.39	1195	0.82	9.28	4.52	0.97
	202602	143	3.37	308	12.35				109	2.02	813							
310215	100869	125	1.02	263	14.22	176	1.10	811	137	0.39	975	150	0.63	917	1.73	13.68	3.05	0.94
	202714	170	7.60	99	8.36	182	2.50	733	162	2.90	719	169	2.76	723	1.95	59.98	2.75	1.07
	202714	107	2.36	147	13.60				122	1.51	696							
310216	100870	145	1.04	207	14.36	178	0.96	812	143	0.36	962	155	0.57	909	1.79	12.38	3.03	0.94
	202461	170	8.14	115	9.92	225	2.42	813	138	2.34	896	168	2.36	866	1.94	51.28	2.89	0.94
	202461	223	7.57	121	10.24				191	2.24	2156							
310217	100830	129	0.50	369	13.82	152	0.43	929	130	0.20	1161	137	0.28	1079	1.58	6.08	3.91	1.02
	202388	136	1.32	255	13.95	341	0.92	1033	151	0.39	1339	217	0.57	1231	2.51	12.38	4.18	0.95
	202388	134	1.01	257	14.04				155	0.34	1268							
310236	101100	99	0.16	335	13.79	145	0.54	842	107	0.17	1082	120	0.30	998	1.38	6.52	3.18	0.89
	204255	84	0.34	241	14.00	138	0.89	798	112	0.33	1076	121	0.52	978	1.40	11.30	3.25	0.93
	204255	84	0.25	235	13.70				100	0.22	1076							

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310361	101536	146	0.53	184	13.41	180	0.73	987	151	0.50	1167	161	0.58	1103	1.86	12.60	3.74	0.95
	203073	99	0.61	245	13.98	154	1.30	659	97	0.45	724	116	0.74	701	1.34	16.11	2.63	1.05
	203073	92	0.29	312	13.76				91	0.36	807							
310006	100183	125	0.19	359	14.14	112	1.01	586	85	0.42	773	94	0.62	707	1.08	13.46	2.37	0.95
	201836	85	0.72	226	14.88	112	1.45	452	77	0.43	629	89	0.78	567	1.02	16.94	1.85	0.92
	201836	63	0.30	229	14.68				81	0.39	549							
310065	100552	77	0.20	447	14.64	114	1.38	712	52	0.27	929	73	0.65	853	0.99	16.62	3.41	0.96
	201387	49	0.09	256	13.85	169	1.22	1382	64	0.24	1036	100	0.58	1157	1.36	14.83	4.52	0.93
	201387	173	0.11	762	13.91				94	0.18	1088							
310177	100747	50	0.12	558	13.76	84	0.52	751	45	0.17	1065	58	0.29	955	0.78	7.41	3.83	0.96
	202484	79	0.34	365	14.59	141	0.99	1405	75	0.16	1973	98	0.45	1774	1.33	11.50	6.90	0.93
	202484	73	0.12	352	14.57				81	0.14	2106							
310213	100794	59	0.11	462	13.96	61	0.39	835	44	0.23	986	49	0.28	933	0.66	7.16	3.72	0.95
	202462	20	0.11	501	13.87	51	0.71	910	26	0.25	985	34	0.41	958	0.46	10.48	3.73	0.93
	202462	23	0.10	457	13.71				28	0.14	1088							
310214	100868	239	6.44	115	10.59	203	1.89	701	146	1.44	835	165	1.59	788	2.24	40.66	3.11	0.94
	202507	36	0.27	570	14.93	70	1.23	715	32	0.40	904	45	0.69	837	0.61	17.64	3.30	0.94
	202507	48	0.87	465	14.55				43	0.92	763							
310283	101122	30	0.10	454	13.90	83	0.71	886	31	0.16	1174	49	0.35	1071	0.66	8.94	3.71	0.82
	202483	84	2.34	278	13.34	113	1.58	800	67	0.99	862	83	1.19	840	1.13	30.44	3.27	0.93
	202483	52	0.72	323	13.22				68	0.52	1025							
310284	101143	39	0.10	470	13.96	81	0.97	684	34	0.13	906	50	0.42	828	0.68	10.73	3.13	0.90
	202506	78	0.09	329	12.71	151	2.67	561	150	1.22	635	150	1.72	609	2.04	43.99	2.41	0.95
	202506	130	0.09	278	11.75				185	1.07	615							
310285	101144	64	0.21	534	14.84	89	1.24	748	39	0.25	900	56	0.59	846	0.76	15.08	3.19	0.90
	202482	143	2.91	163	13.09	170	2.42	630	102	0.88	777	125	1.41	725	1.70	36.06	2.77	0.91
	202482	78	0.33	386	14.70				71	0.33	1005							
310062	100501	114	1.14	263	13.57	121	0.78	890	71	0.42	1064	88	0.54	1003	1.26	14.57	4.54	1.02
	201661	69	1.32	227	13.92	84	0.84	702	47	0.41	834	59	0.56	787	0.84	15.12	3.29	0.95
	201661	705	0.56	225	12.16				347	0.30	747							
310260	101448	36	0.09	97	13.37	171	0.84	833	98	0.28	949	123	0.47	908	1.40	10.08	2.85	0.89
	204385	137	1.60	181	13.67	120	1.05	685	154	1.14	682	142	1.10	683	1.62	23.60	2.05	0.86
	204385	89	1.27	165	13.86				92	1.07	677							
310280	101190	54	0.14	165	13.47	136	0.45	1259	97	0.31	1403	110	0.35	1352	1.14	6.84	3.97	0.91
	203580	216	6.91	137	10.81	318	1.70	758	243	2.00	951	269	1.89	883	2.80	36.97	2.76	0.98
	203580	193	7.01	133	10.72				224	1.97	1074							
310005	100182	116	0.34	570	14.18	125	1.00	673	76	0.34	910	93	0.57	827	1.17	13.57	3.05	0.95
	203580	78	1.01	386	13.62	108	1.51	647	78	0.73	875	88	1.00	795	1.11	23.87	3.00	0.96
	203580	138	0.81	346	12.77				230	0.27	1478							
310161	100692	101	1.14	138	13.13	327	2.89	530	136	0.41	1140	202	1.27	926	2.30	27.24	3.11	0.96
	202348	144	1.56	132	13.58	318	3.07	811	199	0.60	1306	240	1.46	1132	2.74	31.32	4.09	1.03
	202348	68	0.42	105	13.53				232	0.33	887							

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310091	100594	82	0.18	332	13.98	109	0.80	893	59	0.18	1180	76	0.39	1079	1.03	9.97	4.33	0.96
	202254	55	0.14	301	13.96	99	0.56	1155	63	0.17	1509	75	0.30	1385	1.02	7.67	5.69	0.98
	202254	53	0.08	306	13.51				66	0.14	1688							
310160	101038	112	1.05	287	14.25	111	1.10	637	61	0.48	780	78	0.69	729	1.06	17.64	2.77	0.91
	202446	79	0.55	274	14.47	80	0.43	857	83	0.27	1021	81	0.32	963	1.10	8.18	3.71	0.92
	202446	93	1.12	298	14.09				101	1.12	1051							
310222	100863	108	0.78	259	14.03	113	1.33	854	71	0.37	1147	85	0.70	1044	1.15	17.90	4.06	0.93
	202407	70	0.47	268	14.71	87	0.73	602	76	0.26	835	79	0.42	753	1.07	10.73	3.16	1.00
	202407	58	0.15	195	14.52				84	0.22	805							
310225	100945	73	0.59	283	14.56	84	1.11	720	45	0.27	1039	58	0.56	927	0.78	14.32	3.56	0.92
	202139	59	0.41	301	14.26	97	1.26	720	52	0.18	938	67	0.55	861	0.91	14.06	3.52	0.97
	202139	51	0.25	271	14.26				50	0.17	1017							
310007	100181	88	0.36	452	14.28	114	0.64	1017	70	0.26	1260	85	0.39	1174	1.22	10.52	4.88	0.94
	202094	65	0.48	253	15.21	100	0.81	1049	81	0.46	1191	87	0.58	1141	1.25	15.65	4.93	0.98
	202094	57	0.18	341	14.91				85	0.38	1205							
310105	100439	148	2.74	370	13.03	122	2.66	976	87	1.68	1076	99	2.02	1041	0.87	33.44	2.64	0.94
	202202	103	0.48	492	13.93	158	2.43	1135	95	0.47	1609	117	1.15	1501	1.03	19.03	3.99	0.98
	202202	79	0.46	482	13.85				73	0.44	1747							
310117	100620	105	1.12	217	13.50	123	2.03	1156	96	1.27	1273	105	1.53	1232	0.83	22.76	2.76	0.91
	202220	262	9.07	127	9.63	399	2.80	1105	341	2.26	1303	361	2.44	1233	2.86	36.35	3.00	1.00
	202220	238	9.88	106	9.13				335	2.12	1372							
310064	100518	183	1.55	144	14.09	122	1.43	762	71	0.25	804	88	0.66	789	1.01	14.34	2.68	0.96
	201641	235	4.65	114	12.39	142	2.34	990	96	0.69	940	112	1.26	957	1.29	27.37	3.23	0.95
	201641	280	6.83	87	10.42				116	1.02	1404							
310072	100578	242	3.91	102	12.31	241	1.08	635	232	0.74	721	235	0.85	690	2.44	16.63	2.15	0.97
	202350	98	0.16	106	13.95	173	0.80	727	117	0.18	784	136	0.39	764	1.41	7.62	2.56	1.05
	202350	78	0.22	101	14.49				106	0.15	874							
310109	100691	363	7.38	49	9.76	135	1.79	704	101	1.03	875	112	1.29	815	1.29	28.03	2.76	0.95
	204453	132	0.26	176	13.69	147	2.06	696	82	0.15	783	104	0.81	752	1.20	17.59	2.36	0.88
	204453	146	0.55	156	13.38				87	0.22	819							
310228	100942	119	0.22	319	14.46	78	0.29	551	54	0.18	616	62	0.22	593	0.71	4.78	1.95	0.93
	202052	210	0.77	253	14.36	200	0.49	610	145	0.25	728	164	0.33	686	1.89	7.16	2.31	0.95
	202052	187	1.28	161	13.88				114	0.26	647							
310240	101044	126	4.80	116	11.65	123	1.42	589	197	1.52	631	171	1.48	616	1.95	31.75	1.96	0.91
	202389	409	9.72	108	8.59	544	2.88	967	467	2.71	1230	493	2.76	1137	5.63	59.21	3.78	0.95
	202389	162	0.35	117	13.43				405	0.50	1429							
310068	100567	158	2.17	136	13.25	221	2.29	520	233	0.50	729	228	1.12	655	2.79	25.80	2.49	1.01
	204490	725	0.08	136	9.96	661	0.46	505	1005	0.20	633	884	0.29	588	10.85	6.68	2.13	0.96
	204490	681	0.08	76	9.40				914	0.17	602							
310351	101222	168	1.22	208	13.44	95	0.71	802	73	0.31	979	80	0.44	917	1.01	10.47	3.53	0.99
	203177	258	3.91	119	12.21	151	1.06	673	134	0.75	823	139	0.85	770	1.76	20.29	3.36	1.12
	203177	243	3.70	142	12.24				113	0.89	619							

LOS ANGELES

1971 VEHICLE TEST DATA

CAR NO	RUN NO	CYCLE 7 IDLE HC	CO	NO	CO2	CYCLE 1-4 HC	CO	NO	CYCLE 6-7 HC	CO	NO	COMPOSITE HC	CO	NO	MASS HC	CO	NOXC	HUCF
310013	100318	95	0.31	355	14.04	89	0.82	965	58	0.27	1212	68	0.46	1125	0.92	11.76	4.20	0.89
	201643	117	0.32	372	13.86	149	0.48	1457	89	0.34	1680	109	0.38	1601	1.48	9.71	6.36	0.95
	201643	100	0.18	310	13.84				81	0.42	1595							
310054	100432	134	1.19	319	13.83	88	1.19	735	56	0.31	1053	67	0.61	941	0.91	15.59	3.54	0.90
	201640	93	0.48	198	13.41	78	0.41	1040	64	0.29	1232	68	0.33	1164	0.92	8.43	4.57	0.94
	201640	131	2.45	176	13.14				77	0.62	1248							
310061	101317	128	1.24	237	13.89	100	0.74	917	68	0.51	1107	79	0.59	1040	1.07	15.08	4.10	0.94
	202051	126	0.30	229	14.45	156	0.60	1009	92	0.28	1018	114	0.39	1014	1.55	9.97	4.01	0.94
	202051	107	0.78	196	14.52				63	0.52	803							
310092	100590	143	1.83	166	12.59	68	0.46	668	55	0.36	699	59	0.39	688	0.80	9.97	2.80	0.97
	203127	138	1.42	261	13.38	85	0.61	691	57	0.47	844	66	0.51	790	0.90	13.07	3.57	1.08
	203127	147	1.93	198	13.39				59	0.73	652							
310102	100622	101	0.32	331	14.33	82	0.96	843	58	0.24	1069	66	0.49	989	0.89	12.53	3.66	0.88
	201684	83	0.08	202	12.87	117	0.51	1049	69	0.16	1157	85	0.28	1119	1.15	7.16	4.45	0.95
	201684	81	0.08	228	12.77				74	0.29	1442							
310180	100745	104	0.56	399	13.96	137	0.45	792	55	0.24	1016	83	0.31	937	1.13	7.92	3.70	0.94
	202349	120	0.65	328	13.99	185	4.22	689	87	0.32	1232	121	1.68	1041	1.64	42.97	4.50	1.03
	202349	106	0.58	363	14.15				77	0.38	1279							
310182	100815	61	0.15	373	12.90	76	1.28	687	40	0.29	832	52	0.63	781	0.70	16.10	3.21	0.98
	202623	162	0.16	431	13.33	170	1.80	828	107	0.30	995	129	0.82	936	1.75	20.97	3.92	1.00
	202623	189	0.08	289	13.11				101	0.28	1011							
310226	100913	182	1.68	165	13.15	90	0.59	610	72	0.49	736	78	0.52	691	1.06	13.29	2.67	0.92
	202186	141	0.57	333	14.41	120	0.48	850	96	0.24	924	104	0.32	898	1.41	8.18	3.79	1.01
	202186	149	1.67	223	13.59				104	0.83	1076							
310308	101266	109	0.06	235	13.37	86	0.69	564	51	0.23	637	63	0.39	611	0.85	9.97	2.56	1.00
	202253	376	4.50	115	11.25	179	0.90	890	168	0.68	1014	171	0.75	970	2.32	19.18	4.05	1.00
	202253	264	0.35	136	14.16				147	0.26	907							
310136	100725	108	0.08	515	14.05	101	1.03	981	79	0.99	1121	86	1.00	1071	1.17	25.58	4.21	0.94
	202850	172	0.08	395	13.35	137	0.54	1056	124	0.56	1040	128	0.55	1045	1.74	14.06	4.36	1.00
	202850	168	0.06	277	13.17				106	0.36	1081							
310155	100693	64	0.11	615	14.04	109	0.99	1001	61	0.84	1018	77	0.90	1012	1.04	23.01	4.06	0.96
	202589	83	0.13	585	14.02	86	0.93	814	80	0.71	1067	82	0.78	978	1.11	19.94	3.92	0.96
	202589	98	0.46	732	14.16				98	1.59	902							
310231	100989	74	0.08	453	15.29	111	2.18	699	60	0.80	853	77	1.28	799	1.04	32.74	3.11	0.93
	202716	127	0.08	260	14.42	108	0.28	688	81	0.29	717	90	0.28	706	1.22	7.16	3.05	1.03
	202716	119	0.08	248	14.31				79	0.28	605							
310238	101019	116	1.58	105	13.41	66	0.94	470	40	0.32	597	49	0.53	552	0.66	13.55	1.93	0.84
	202755	76	0.74	131	13.73	57	0.28	425	32	0.17	587	40	0.21	530	0.54	5.37	2.33	1.05
	202755	73	0.83	128	13.63				33	0.28	606							
310118	100633	108	0.46	427	14.25	81	0.50	750	65	0.32	943	70	0.38	875	0.95	9.71	3.56	0.97
	202447	118	0.47	345	14.75	77	0.26	970	72	0.24	935	73	0.24	947	0.99	6.13	3.76	0.95
	202447	109	0.13	315	14.62				76	0.22	1091							

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1971 VEHICLE TEST DATA

CAR NO	RUN NO	CYCLE 7 IDLE HC	CO	NO	CO2	CYCLE 1-4 HC	CO	NO	CYCLE 6-7 HC	CO	NO	COMPOSITE HC	CO	NO	MASS HC	CO	NOXC	HUCF
310186	100949	96	0.74	431	14.36	144	3.31	425	69	0.88	727	95	1.73	621	1.29	44.25	2.36	0.91
	203577	220	6.27	123	10.45	231	4.26	395	159	2.12	587	184	2.86	519	2.51	73.34	2.06	0.95
	203577	599	0.74	270	11.89				420	0.79	591							
310150	101042	59	0.24	391	13.81	88	1.23	631	51	0.44	791	63	0.71	734	0.85	18.15	2.82	0.92
	202948	75	0.19	224	14.62	118	1.35	513	74	0.39	667	89	0.72	613	1.21	18.41	2.65	1.03
	202948	73	0.13	226	14.10				73	0.28	642							
310246	101099	84	0.11	219	12.40	83	0.31	686	74	0.12	1129	77	0.19	973	0.97	4.53	3.35	0.88
	202160	81	0.07	123	12.98	156	0.17	823	155	0.11	989	155	0.13	930	1.96	3.09	3.46	0.96
	202160	61	0.07	137	13.14				106	0.16	1149							
310251	101294	117	0.94	179	12.96	125	1.60	500	82	0.43	801	97	0.83	695	1.39	22.41	2.81	0.91
	202622	78	0.20	171	14.37	114	0.91	457	105	0.19	580	108	0.44	536	1.55	11.87	2.37	1.00
	202622	78	0.11	154	14.22				129	0.14	602							
310250	101293	119	1.25	124	11.26	134	2.59	483	85	0.43	810	102	1.18	695	1.46	31.85	2.88	0.94
	203287	153	2.24	132	13.41	145	1.54	579	113	0.66	828	124	0.96	740	1.78	25.99	3.57	1.09
	203287	89	0.38	205	13.92				81	0.26	984							
310066	100551	73	0.17	220	13.71	68	0.39	695	50	0.19	794	56	0.26	759	0.71	6.19	2.80	0.95
	201984	83	0.27	196	14.10	71	0.26	898	70	0.19	932	70	0.21	920	0.88	5.00	3.42	0.95
	201984	81	0.18	219	13.98				71	0.18	1040							
310282	101141	84	0.18	183	13.23	81	0.59	687	72	0.12	844	75	0.28	789	0.95	6.66	2.68	0.87
	202266	139	0.63	144	13.31	141	0.35	1461	181	0.24	1897	166	0.28	1744	2.10	6.67	6.12	0.90
	202266	132	0.56	146	13.31				196	0.22	2013							
310128	100708	35	0.08	302	13.06	40	0.28	746	31	0.38	813	34	0.34	789	0.48	9.17	3.51	1.00
	202831	31	0.06	176	13.20	37	0.21	788	26	0.11	870	29	0.14	841	0.42	3.78	3.85	1.04
	202831	23	0.06	231	12.85				23	0.11	887							
310154	100802	52	0.06	170	12.44	44	0.15	587	44	0.09	698	44	0.11	659	0.63	2.96	2.78	0.96
	202668	39	0.13	166	14.37	62	0.60	726	23	0.17	1025	36	0.32	920	0.51	8.63	3.93	0.96
	202668	42	0.09	167	14.08				34	0.16	1138							
310010	100234	81	0.92	193	13.94	63	0.62	593	33	0.35	739	43	0.44	687	0.61	11.87	2.63	0.87
	204361	90	1.23	187	13.99	56	0.42	625	59	0.61	629	57	0.54	627	0.81	14.57	2.26	0.82
	204361	71	0.57	187	14.23				45	0.36	661							
310018	100428	92	0.16	357	13.86	101	0.57	640	46	0.17	759	65	0.31	717	0.82	7.34	2.49	0.89
	204235	129	1.05	268	14.27	117	1.60	651	89	0.62	819	98	0.96	760	1.24	22.91	2.69	0.91
	204235	120	0.90	258	14.30				84	0.63	962							
310055	100444	66	0.45	180	14.34	56	0.63	452	39	0.31	453	44	0.42	452	0.55	10.00	1.59	0.91
	203144	513	0.77	176	13.67	303	1.22	336	256	0.52	392	272	0.76	372	3.45	18.14	1.67	1.16
	203144	510	0.86	132	13.52				260	0.55	355							
310170	100710	98	0.78	245	14.06	102	0.63	587	49	0.37	662	67	0.46	635	0.84	10.95	2.51	1.02
	204351	153	1.20	242	13.48	130	1.76	602	118	0.85	809	122	1.16	736	1.54	27.62	2.75	0.96
	204351	142	1.00	181	13.73				105	0.61	701							
310142	101013	90	0.85	141	13.34	71	0.63	551	73	0.42	632	72	0.49	603	1.03	13.22	2.27	0.85
	202830	101	1.35	151	14.40	73	0.68	659	61	0.33	774	65	0.45	733	0.93	12.14	3.29	1.02
	202830	86	0.69	159	14.71				70	0.28	867							

LOS ANGELES

1971 VEHICLE TEST DATA

CAR NO	RUN NO	CYCLE 7 IDLE HC	CO	NO	CO2	CYCLE 1-4 HC	CO	NO	CYCLE 6-7 HC	CO	NO	COMPOSITE HC	CO	NO	MASS HC	CO	NOXC	HUCF
310159	100829	84	0.37	174	13.92	62	0.41	604	52	0.29	717	55	0.33	677	0.79	8.91	3.12	1.04
	202685	80	0.56	129	14.31	59	0.48	679	48	0.33	818	51	0.38	769	0.73	10.26	3.48	1.03
	202685	107	0.68	122	14.00				73	0.31	930							
310286	101173	31	0.34	99	8.38	55	0.85	507	33	0.23	599	40	0.44	566	0.59	12.35	2.35	0.90
	202960	44	0.71	91	11.83	72	0.44	593	51	0.34	673	58	0.37	644	0.86	10.39	3.08	1.04
	202960	40	0.64	77	12.04				54	0.37	648							
310100	100604	29	0.71	85	12.14	31	0.25	544	28	0.32	538	29	0.29	540	0.43	8.14	2.38	0.96
	202586	26	0.83	50	12.28	44	0.41	726	39	0.71	862	40	0.60	814	0.59	16.85	3.60	0.96
	202586	29	1.58	26	12.04				34	1.88	405							
310025	100064	114	1.17	176	10.62	211	1.38	1944	129	0.53	1935	157	0.82	1938	1.38	13.57	4.84	0.92
	201662	88	0.46	276	14.42	166	1.05	1839	107	0.49	1793	127	0.68	1809	1.12	11.21	4.55	0.93
	201662	89	0.86	286	14.23				97	0.83	2375							
310313	101357	413	1.16	109	11.20	326	1.65	1404	308	1.08	1231	314	1.28	1291	2.48	19.04	2.92	0.93
	204293	150	1.27	173	12.17	226	3.23	875	136	1.61	901	167	2.17	891	1.32	32.32	2.04	0.94
	204293	287	0.73	134	11.65				193	1.40	1530							
310011	100229	257	1.65	137	11.75	163	1.37	1396	120	1.15	1110	135	1.22	1210	0.97	16.56	2.40	0.89
	201710	160	5.07	59	8.83	312	2.66	930	135	2.03	905	196	2.25	913	1.41	30.55	1.92	0.95
	201710	216	6.69	59	8.14				173	2.02	912							
310101	100607	67	1.08	118	12.07	197	1.99	979	125	1.59	1073	150	1.72	1040	1.08	23.35	2.29	0.99
	201892	215	4.37	61	9.78	357	3.81	740	322	3.64	622	334	3.69	663	2.41	50.11	1.34	0.91
	201892	237	3.79	79	10.21				328	3.09	631							
310181	100764	153	3.91	106	10.32	248	2.82	900	181	2.90	800	204	2.87	815	1.47	38.97	1.69	0.91
	201925	122	2.35	94	11.14	292	2.46	792	174	2.23	931	215	2.31	882	1.55	31.37	1.72	0.88
	201925	188	1.66	124	11.06				187	1.84	1207							
310221	100918	566	0.60	98	12.34	380	1.35	1490	287	1.10	1464	319	1.18	1473	2.30	16.02	2.96	0.90
	202355	298	2.81	114	12.62	738	4.19	1103	376	2.01	1171	502	2.77	1147	3.63	37.61	2.48	0.97
	202355	468	1.35	103	12.88				438	1.84	1152							
310233	100911	182	2.75	102	12.84	186	2.70	751	135	1.75	1052	152	2.08	946	1.09	28.24	1.97	0.94
	203349	176	2.51	127	13.91	229	1.90	1210	155	1.61	1005	180	1.71	1076	1.30	23.22	2.44	1.02
	203349	198	3.00	119	14.02				134	1.50	648							
310295	101199	205	3.24	115	10.78	247	1.97	965	164	1.50	1106	193	1.67	1056	1.39	22.67	2.13	0.91
	204057	295	4.28	113	9.82	205	2.84	926	221	2.12	1036	215	2.37	991	1.55	32.18	2.04	0.93
	204057	338	4.03	129	9.66				186	2.18	1001							
310327	101511	187	3.85	86	8.55	315	1.93	1501	291	1.57	1375	299	1.69	1419	2.39	25.43	3.28	0.94
	203108	317	5.84	111	9.04	300	2.30	1477	238	2.35	1445	259	2.33	1456	2.07	35.10	3.70	1.03
	203108	255	1.05	298	12.57				224	0.88	1191							
310328	101512	146	1.09	76	10.57	317	1.88	1220	139	1.50	1292	240	1.63	1266	1.73	22.13	2.75	0.98
	203188	198	3.11	130	10.51	302	2.31	747	388	2.41	728	357	2.37	734	2.58	32.18	1.76	1.08
	203188	189	2.94	111	10.65				270	2.81	672							
310354	101321	267	6.61	89	7.75	372	2.95	1148	249	2.84	1129	292	2.87	1135	2.11	38.97	2.34	0.93
	203135	184	6.05	122	8.88	356	2.42	1083	307	3.11	703	324	2.86	835	2.34	38.84	2.03	1.10
	203135	203	5.93	124	8.87				315	2.77	836							

TABLE B-3

Detroit

DETROIT

1971 VEHICLE TEST DATA

CAR NO	RUN NO	CYCLE 7 IDLE HC	CYCLE 7 IDLE CO	CYCLE 7 IDLE NO	CYCLE 7 IDLE CO2	CYCLE 1-4 HC	CYCLE 1-4 CO	CYCLE 1-4 NO	CYCLE 6-7 HC	CYCLE 6-7 CO	CYCLE 6-7 NO	COMPOSITE HC	COMPOSITE CO	COMPOSITE NO	MASS HC	MASS CO	MASS NOXC	MASS HUCF
410231	100231	195	5.30	68	10.85	240	3.47	499	163	1.81	701	189	2.39	630	2.19	52.03	2.07	0.92
	200976	246	5.38	78	10.40	304	3.25	779	229	2.75	990	255	2.92	916	2.95	63.57	3.36	1.03
	200976	243	5.31	72	10.67				215	2.16	1099							
410233	100233	170	4.14	89	11.99	215	3.44	647	149	1.98	1025	172	2.49	892	1.99	54.21	2.99	0.94
	200995	156	3.24	104	12.89	272	2.35	833	199	1.31	1071	224	1.67	987	2.59	36.29	3.46	0.98
	200995	84	0.52	147	13.73				167	0.53	1107							
410234	100234	216	6.15	90	9.43	250	3.33	725	152	2.02	1116	186	2.47	979	2.36	58.84	3.71	0.97
	200956	110	0.68	127	13.33	161	0.71	1193	139	0.27	1553	146	0.42	1426	1.85	10.02	5.46	0.98
	200956	129	1.02	156	12.83				129	0.39	1397							
410244	100244	148	3.12	73	11.33	234	1.80	701	133	1.48	885	168	1.59	820	2.13	37.95	2.96	0.92
	200897	225	4.75	70	10.52	316	2.85	818	253	2.10	1016	275	2.36	946	3.49	56.33	4.05	1.09
	200897	154	1.57	96	12.62				238	0.98	1547							
410136	100135	197	5.53	61	10.79	198	2.19	742	169	2.63	697	179	2.44	712	2.44	63.34	2.82	0.94
	200986	112	0.92	106	13.38	45	0.95	1123	142	0.62	1162	108	0.73	1148	1.47	18.67	4.56	0.95
	200986	96	0.34	113	13.53				133	0.27	825							
410613	100889	151	3.05	103	12.13	176	1.99	779	116	1.38	944	137	1.59	886	1.87	40.67	3.76	1.01
	201103	81	1.57	129	13.26	129	1.44	681	95	0.63	942	106	0.91	850	1.44	23.33	3.57	1.00
	201103	61	0.28	166	13.93				97	0.27	1415							
410240	100240	68	0.58	169	13.69	141	1.85	715	80	0.73	1048	101	1.12	931	1.45	30.33	3.73	0.90
	201014	190	3.57	77	12.28	261	2.46	683	169	1.56	901	201	1.87	824	2.89	50.49	3.54	0.97
	201014	615	0.14	48	10.20				481	0.93	900							
410492	100641	77	1.19	81	13.45	98	0.99	562	72	0.60	738	81	0.73	676	1.16	19.77	2.84	0.95
	200988	116	2.75	87	8.62	240	3.41	593	144	1.91	748	177	2.43	693	2.55	65.81	3.04	0.99
	200988	97	0.63	70	8.60				138	0.55	1089							
410052	100477	135	2.23	65	13.23	138	1.37	1345	115	1.20	1340	123	1.25	1341	1.68	32.05	5.44	0.96
	201008	163	1.55	119	13.44	275	2.04	1647	230	1.55	1834	245	1.72	1768	3.33	43.99	6.52	0.88
	201008	108	0.10	83	9.92				223	1.28	1777							
410254	100254	142	0.26	204	14.08	348	1.31	1309	287	1.11	1402	308	1.17	1369	2.85	20.33	3.73	0.96
	200952	78	0.43	154	14.03	383	1.04	1400	274	0.69	1602	312	0.81	1531	2.88	14.07	4.49	1.03
	200952	69	0.27	155	14.07				245	0.35	1496							
410255	100255	209	3.16	159	12.05	247	1.00	2415	205	0.77	2520	219	0.85	2483	2.25	16.43	6.71	0.85
	201003	143	2.17	108	9.73	262	0.92	2682	196	0.74	2916	219	0.80	2834	2.25	15.44	8.64	0.96
	201003	116	1.72	115	9.64				175	0.60	2715							
410229	100229	188	1.50	175	14.10	190	0.98	678	151	0.61	824	164	0.73	772	1.90	15.89	2.87	1.04
	201004	183	1.98	79	13.88	242	1.28	812	186	0.74	942	205	0.92	896	2.37	19.99	3.09	0.97
	201004	175	0.13	143	13.51				202	0.43	1366							
410268	100269	161	1.67	216	13.80	188	1.08	628	133	0.66	726	152	0.80	691	1.76	17.41	2.46	1.00
	200984	123	0.83	279	14.19	201	1.19	773	144	0.52	889	163	0.75	848	1.88	16.29	2.99	0.99
	200984	114	0.87	247	13.93				126	0.42	567							
410308	100327	275	8.39	91	9.39	245	1.95	818	196	2.34	845	213	2.20	835	2.46	47.89	2.77	0.93
	200891	258	5.48	145	11.32	292	1.52	1282	208	1.31	1504	237	1.38	1426	2.74	29.99	4.95	0.98
	200891	121	0.12	361	13.74				185	0.19	1594							

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CAR NO	RUN NO	-----CYCLE 7 IDLE----- HC	CO	NO	CO2	----CYCLE 1-4--- HC	CO	NO	----CYCLE 6-7--- HC	CO	NO	----COMPOSITE--- HC	CO	NO	----------MASS---------- HC	CO	NOXC	HUCF
410372	100438	107	1.21	181	14.12	286	1.80	447	210	1.46	540	236	1.57	507	2.69	33.68	1.62	0.91
	200954	89	0.46	135	14.33	339	1.17	765	368	0.51	916	344	0.74	863	3.93	15.87	3.02	1.00
	200954	42	0.07	154	13.74				218	0.35	1189							
410215	100215	107	0.07	426	12.92	181	0.94	898	126	0.13	1228	145	0.41	1112	1.98	10.51	4.39	0.94
	200994	290	4.41	124	12.07	336	1.73	1149	234	0.89	1519	269	1.18	1389	3.66	30.17	5.97	1.02
	200994	169	0.25	211	13.48				214	0.26	1569							
410218	100218	244	3.15	131	12.92	209	0.91	693	181	1.44	712	190	1.25	705	2.41	29.83	2.63	0.96
	201007	355	6.07	76	11.37	370	2.18	713	293	1.40	1020	319	1.67	912	4.04	39.78	3.16	0.89
	201007	248	2.64	126	13.20				218	0.90	1506							
410302	100321	156	2.72	151	13.06	254	2.97	809	144	1.35	1228	182	1.91	1081	2.48	48.98	4.30	0.95
	200987	202	3.58	114	12.78	413	3.16	1001	243	1.34	1428	302	1.97	1278	4.12	50.51	5.23	0.97
	200987	79	0.72	222	13.75				147	0.59	1471							
410317	100339	200	4.93	109	11.50	235	2.87	992	153	1.31	1315	181	1.85	1201	2.47	47.44	5.00	0.99
	200962	176	4.54	128	11.99	267	2.68	1219	184	1.20	1531	213	1.71	1421	2.90	43.85	6.35	1.06
	200962	67	0.08	272	13.65				178	0.35	1584							
410349	100414	134	2.51	113	12.84	168	0.51	977	188	1.23	933	181	0.97	948	2.06	20.80	3.14	0.94
	201012	296	3.66	91	12.96	312	1.21	1096	316	0.90	1296	314	1.00	1226	3.58	21.45	4.17	0.97
	201012	221	3.61	101	13.16				282	0.87	1518							
410305	100324	143	1.83	182	12.37	158	0.53	1959	142	0.43	2061	147	0.46	2025	1.51	8.89	6.15	0.96
	200922	327	8.98	69	9.10	262	2.01	1887	229	2.03	1822	240	2.02	1844	2.47	39.06	5.74	0.98
	200922	209	0.19	1589	14.15				204	0.61	2396							
410310	100329	151	2.90	87	12.62	363	4.55	487	182	1.46	706	245	2.54	629	2.79	54.49	2.02	0.92
	200893	195	4.12	128	12.08	559	4.50	520	272	1.36	914	372	2.45	776	4.25	52.55	3.05	1.12
	200893	277	0.09	94	12.98				394	0.25	769							
410315	100338	345	8.44	68	9.24	283	2.89	880	215	1.97	1432	238	2.29	1238	3.25	58.73	4.70	0.90
	201018	318	6.64	78	10.68	314	2.37	1014	219	1.57	1546	252	1.84	1359	3.43	47.06	5.37	0.94
	201018	152	0.60	184	13.91				151	0.23	1632							
410358	100422	247	4.94	96	11.62	245	1.80	1128	158	1.08	1496	188	1.33	1367	2.56	34.10	5.34	0.93
	200959	163	1.04	255	13.99	205	1.07	1461	162	0.39	1880	177	0.62	1733	2.41	15.89	7.38	1.01
	200959	137	0.25	282	13.99				168	0.17	2020							
410543	100725	103	1.34	628	13.53	157	2.46	1027	83	1.82	1032	108	2.04	1030	0.95	33.81	2.69	0.96
	201024	270	3.91	213	12.65	260	3.70	871	203	3.45	730	222	3.53	779	1.95	58.43	1.86	0.88
	201024	275	3.64	191	13.13				191	2.59	826							
410438	100559	269	2.69	113	13.09	190	2.07	1096	119	0.33	1361	143	0.93	1268	1.65	20.24	4.08	0.90
	201019	1021	10.48	41	6.46	511	3.68	679	633	3.61	533	590	3.63	584	6.82	78.88	2.27	1.10
	201019	158	0.42	142	14.19				176	1.62	471							
410450	100573	221	2.53	98	13.40	92	0.36	773	82	0.42	941	85	0.39	882	0.98	8.48	3.09	0.99
	200942	211	2.06	111	13.49	171	2.38	612	77	0.26	766	109	1.00	712	1.26	21.77	2.54	1.00
	200942	221	1.66	103	13.55				83	0.24	635							
410544	100729	205	2.59	73	13.15	274	1.73	773	128	0.41	1082	179	0.87	973	1.86	17.02	2.91	0.94
	201022	147	1.95	87	13.47	420	2.13	813	156	0.70	927	248	1.20	887	2.58	23.48	2.68	0.94
	201022	172	2.72	77	13.14				131	0.63	1023							

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CAR NO	RUN NO	CYCLE 7 IDLE HC	CYCLE 7 IDLE CO	CYCLE 7 IDLE NO	CYCLE 7 IDLE CO2	CYCLE 1-4 HC	CYCLE 1-4 CO	CYCLE 1-4 NO	CYCLE 6-7 HC	CYCLE 6-7 CO	CYCLE 6-7 NO	COMPOSITE HC	COMPOSITE CO	COMPOSITE NO	MASS HC	MASS CO	MASS NOXC	MASS HUCF
410553	100759	241	4.40	95	11.68	309	2.40	929	238	1.83	966	262	2.02	953	2.99	43.33	3.13	0.93
	201006	382	4.65	67	11.88	5.4	2.87	733	507	1.66	913	516	2.08	849	5.89	44.62	3.04	1.02
	201006	254	3.02	81	13.05				239	1.72	649							
410562	100779	210	3.08	88	12.80	214	1.93	630	143	0.56	879	167	1.03	791	1.74	20.15	2.36	0.93
	201009	470	8.21	69	10.52	210	1.13	741	299	1.39	720	267	1.29	727	2.78	25.24	2.07	0.89
	201009	263	5.60	88	11.14				183	1.35	987							
410566	100783	205	1.74	129	13.50	118	1.47	529	69	0.34	824	86	0.73	720	0.99	15.89	2.44	0.95
	201093	173	1.80	203	13.41	133	2.07	726	73	0.31	1111	93	0.92	976	1.07	20.03	3.50	1.01
	201093	132	2.58	134	12.62				52	0.40	923							
410571	100799	219	3.73	90	12.16	133	2.01	673	73	0.40	899	93	0.96	819	1.07	20.89	2.75	0.94
	200951	237	2.96	109	12.61	335	2.70	618	344	0.34	862	340	1.16	776	3.94	25.21	2.76	1.00
	200951	94	0.14	353	13.71				63	0.14	913							
410548	100754	274	2.19	311	13.07	242	0.53	860	159	0.51	1100	188	0.51	1016	2.17	11.10	3.40	0.94
	200931	404	1.53	405	13.31	275	0.56	1368	251	0.48	1469	259	0.50	1433	3.00	10.88	5.26	1.03
	200931	419	1.54	260	13.03				269	0.47	1499							
410086	100084	159	1.05	126	12.90	96	1.44	413	66	0.40	531	76	0.76	489	0.96	18.10	1.84	0.97
	201007	310	3.31	151	12.78	173	0.99	740	192	1.82	753	185	1.52	748	2.34	36.20	3.00	1.03
	201007	311	4.47	120	11.84				207	1.80	692							
410256	100256	179	3.05	101	12.14	104	1.06	498	88	0.89	475	93	0.94	483	1.18	22.44	1.77	0.94
	200823	186	1.83	108	9.34	169	0.96	606	108	0.58	667	129	0.71	645	1.64	16.94	2.83	1.12
	200823	161	0.05	642	14.04				109	0.28	913							
410360	100425	178	3.69	128	12.04	102	0.83	538	88	0.91	609	92	0.88	584	1.25	22.56	2.72	1.11
	200991	212	0.89	199	13.88	221	0.43	983	132	0.40	1061	163	0.41	1033	2.22	10.51	4.23	0.97
	200991	187	0.16	235	13.87				121	0.35	1036							
410422	100521	68	0.29	65	14.27	129	1.06	454	99	0.56	560	109	0.73	522	1.13	14.28	1.56	0.94
	200983	80	0.37	92	13.78	272	1.62	803	168	0.32	1045	204	0.77	960	2.12	15.06	2.94	0.96
	200983	99	0.26	75	13.67				265	0.81	743							
410312	100333	225	5.57	111	10.83	170	2.41	382	167	3.07	360	168	2.83	367	2.13	67.56	1.30	0.92
	200894	133	0.78	225	13.89	136	0.94	531	87	0.34	578	104	0.55	561	1.32	13.13	2.59	1.18
	200894	150	0.61	169	13.89				107	0.30	518							
410313	100334	113	1.81	196	13.40	119	1.45	515	68	0.74	659	85	0.98	608	1.08	23.39	2.13	0.90
	201038	336	9.14	50	8.15	256	4.19	366	195	3.65	382	216	3.83	376	2.74	91.44	1.40	0.96
	201038	109	0.57	138	13.47				105	0.87	553							
410526	100699	143	2.04	160	13.24	87	0.46	722	87	0.78	785	86	0.66	762	1.17	16.92	3.01	0.94
	200924	277	3.82	221	12.15	179	1.33	1149	169	1.56	1143	172	1.47	1145	2.34	37.69	5.26	1.09
	200924	276	2.92	183	12.73				245	1.63	1333							
410065	100065	51	0.04	155	12.68	63	0.81	617	42	0.36	729	49	0.51	689	0.70	13.76	2.86	0.94
	200910	63	0.09	137	13.72	94	0.92	785	63	0.35	813	73	0.54	803	1.05	14.61	3.71	1.04
	200910	65	0.20	160	13.81				62	0.34	1027							
410532	100705	58	0.33	158	14.12	53	0.54	588	32	0.20	737	39	0.31	684	0.56	8.39	2.89	0.95
	200999	777	0.08	178	11.53	421	0.23	532	389	0.27	642	400	0.25	603	5.75	6.74	2.57	0.97
	200999	1004	0.08	140	10.29				647	0.22	550							

DETROIT

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CAR NO	RUN NO	CYCLE 7 IDLE HC	CYCLE 7 IDLE CO	CYCLE 7 IDLE NO	CYCLE 7 IDLE CO2	CYCLE 1 4 HC	CYCLE 1 4 CO	CYCLE 1 4 NO	CYCLE 6-7 HC	CYCLE 6-7 CO	CYCLE 6-7 NO	COMPOSITE HC	COMPOSITE CO	COMPOSITE NO	MASS HC	MASS CO	MASS NOXC	MASS HUCF
410345	100410	164	3.66	97	12.34	97	1.45	492	90	1.39	519	92	1.41	509	1.32	38.18	2.05	0.91
	201017	219	3.36	75	12.65	139	1.19	692	146	1.33	636	143	1.28	655	2.05	34.56	2.72	0.94
	201017	215	3.78	83	12.13				152	1.88	488							
410344	100409	197	1.44	162	13.17	129	1.00	498	99	0.77	611	109	0.85	571	1.38	20.29	2.05	0.92
	200915	862	0.24	163	11.55	263	0.96	648	316	0.21	730	297	0.47	701	3.77	11.20	2.80	1.02
	200915	1044	0.13	225	11.00				346	0.15	741							
410559	100776	139	2.42	146	13.30	86	0.98	577	71	0.80	681	76	0.86	644	1.09	23.29	2.67	0.94
	201023	211	1.18	150	13.48	198	1.36	639	129	0.61	688	153	0.87	670	2.20	23.48	2.73	0.92
	201023	257	3.64	111	12.27				133	0.76	612							
410147	100147	92	0.66	83	13.82	81	0.62	383	67	0.22	438	71	0.36	420	1.02	9.74	1.74	0.94
	200923	66	0.19	123	13.93	71	0.37	577	66	0.09	548	67	0.19	558	0.96	5.13	2.76	1.12
	200923	95	0.38	136	13.82				94	0.19	667							
410335	100379	100	0.65	119	13.27	138	0.68	487	97	0.40	642	111	0.49	587	1.60	13.23	2.44	0.94
	201084	97	2.01	87	12.88	226	3.21	656	116	0.59	915	154	1.50	824	2.22	40.51	3.40	0.93
	201084	93	1.77	112	13.09				130	0.69	947							
410356	100420	84	0.29	136	14.22	86	0.70	467	78	0.25	493	80	0.40	483	1.15	10.83	1.95	0.91
	200985	113	1.37	153	13.84	93	1.32	515	87	0.65	606	89	0.88	574	1.27	23.75	2.56	1.01
	200985	92	0.61	189	14.10				96	0.59	706							

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Denver

DENVER

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CAR NO	RUN NO	CYCLE 7 IDLE HC	CYCLE 7 IDLE CO	CYCLE 7 IDLE NO	CYCLE 7 IDLE CO2	CYCLE 1-4 HC	CYCLE 1-4 CO	CYCLE 1-4 NO	CYCLE 6-7 HC	CYCLE 6-7 CO	CYCLE 6-7 NO	COMPOSITE HC	COMPOSITE CO	COMPOSITE NO	MASS HC	MASS CO	MASS NOXC	MASS HUCF
510010	100C32	306	9.98	73	8.46	440	6.06	500	332	6.45	531	369	6.31	520	3.41	109.68	1.29	0.87
	200770	266	9.47	44	8.61	381	5.20	382	295	5.43	412	325	5.34	401	3.00	92.82	1.09	0.96
	200770	316	10.08	30	8.08				306	5.23	312							
510016	100C37	171	3.11	118	12.55	447	6.86	393	337	7.20	406	375	7.08	401	3.47	123.06	1.03	0.91
	200785	208	5.71	53	10.07	306	4.04	371	243	4.47	369	265	4.31	369	2.45	74.91	0.93	0.90
	200785	129	4.86	61	10.65				200	6.72	202							
510105	100212	236	3.74	103	8.83	812	6.56	406	608	7.88	339	679	7.41	362	6.28	128.80	0.87	0.85
	200720	156	1.53	86	13.28	559	4.73	440	562	4.94	413	560	4.86	422	5.18	84.47	1.12	0.94
	200720	449	0.29	77	13.24				699	4.14	457							
510210	100368	171	0.70	540	13.99	209	2.66	928	170	2.73	904	183	2.70	912	1.88	52.13	2.65	0.92
	200810	197	1.58	178	13.47	440	8.06	162	254	4.41	451	319	5.68	349	3.28	109.67	0.95	0.87
	200810	178	1.43	196	13.66				221	3.26	663							
510255	100414	231	3.17	122	12.25	460	6.98	296	264	6.91	315	332	6.93	308	3.41	133.81	0.87	0.90
	200778	318	6.35	54	10.17	402	4.11	637	297	3.31	700	333	3.58	677	3.42	69.12	1.93	0.90
	200778	185	4.14	78	11.64				188	3.12	621							
510273	100434	222	5.99	99	10.56	253	3.07	725	186	3.06	843	209	3.06	801	2.14	59.08	2.30	0.91
	200790	145	1.36	147	13.31	172	1.04	750	103	0.49	896	127	0.68	844	1.30	13.12	2.60	0.97
	200790	184	3.01	69	12.25				127	0.68	920							
510278	100450	257	5.25	122	10.77	492	7.67	256	319	8.66	237	379	8.31	243	3.89	160.46	0.75	0.99
	200798	261	5.30	105	10.92	515	9.25	102	357	8.79	149	412	8.95	132	4.23	172.81	0.38	0.92
	200798	265	4.67	95	11.29				373	9.00	103							
510013	100C38	153	0.05	257	12.12	151	0.69	1864	136	0.51	2029	141	0.57	1971	1.44	11.00	5.63	0.90
	200789	139	0.03	54	12.26	176	0.33	1345	177	0.15	1361	176	0.21	1355	1.80	4.05	4.18	0.97
	200789	133	0.02	65	12.30				163	0.11	1354							
510249	100404	179	0.16	410	14.04	208	3.38	548	177	3.63	601	187	3.54	582	1.92	68.35	1.70	0.93
	200777	243	1.51	105	13.53	257	1.97	1007	199	1.41	1229	219	1.60	1151	2.25	30.89	3.56	0.98
	200777	256	1.87	97	13.38				205	1.36	1258							
510264	100428	103	0.06	380	13.07	140	1.06	1286	108	1.25	1346	119	1.18	1325	1.22	22.77	3.77	0.90
	200763	157	1.17	175	13.54	215	1.58	1374	139	0.76	1616	165	1.04	1531	1.69	20.07	4.49	0.93
	200763	93	0.34	201	13.92				102	0.97	1083							
510265	100427	149	0.08	186	13.48	218	2.87	772	160	2.41	796	180	2.57	787	1.85	49.62	2.21	0.89
	200762	195	2.09	141	13.08	296	2.24	1350	161	0.80	1545	208	1.30	1476	2.13	25.10	4.32	0.93
	200762	159	2.11	120	13.08				128	0.82	1175							
510012	100030	347	5.14	91	10.33	356	2.07	925	267	2.32	994	298	2.23	969	3.78	53.12	3.39	0.89
	200673	272	4.88	95	10.67	391	1.75	1082	259	2.04	1100	305	1.93	1093	3.86	45.97	5.02	1.18
	200673	283	5.68	93	10.10				263	2.40	1106							
510015	100035	322	5.42	117	10.74	303	1.64	1407	231	2.42	1324	256	2.14	1353	2.96	46.50	4.36	0.90
	200648	261	4.90	104	11.20	403	1.58	1154	231	1.75	1277	291	1.69	1233	3.36	36.72	4.35	0.99
	200648	255	4.95	97	11.15				220	2.10	1297							
510290	100459	317	6.18	102	9.51	433	2.76	800	320	3.19	874	359	3.03	848	4.55	72.18	3.13	0.94
	200782	295	2.98	6	12.42	274	1.51	832	215	1.00	918	235	1.17	887	2.98	27.86	3.06	0.88
	200782	220	2.68	11	12.50				156	0.96	668							

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510014	100042	404	7.02	100	9.66	515	2.07	1882	430	2.59	1840	459	2.40	1854	5.31	52.15	5.99	0.91
	200642	336	5.91	67	10.43	375	2.06	1150	364	2.62	1049	367	2.42	1084	4.24	52.59	3.75	0.97
	200642	195	4.07	121	11.76				211	2.99	784							
510018	100043	265	0.19	214	12.89	310	2.08	1193	241	1.57	1356	265	1.74	1298	3.36	41.45	4.64	0.91
	200685	320	5.83	63	10.17	397	2.50	1139	338	2.68	1120	358	2.61	1126	4.54	62.17	4.85	1.10
	200685	301	4.78	96	11.07				284	2.37	1119							
510092	100191	150	0.06	228	9.73	342	2.06	1778	224	2.34	1361	265	2.24	1506	3.36	53.35	5.16	0.88
	200816	347	0.07	69	10.90	317	1.77	1091	227	0.72	1233	258	1.08	1183	3.27	25.72	5.18	1.12
	200816	104	0.50	143	13.27				158	1.84	691							
510098	100221	176	3.33	130	9.95	288	3.45	662	191	2.92	718	224	3.10	698	2.59	67.37	2.24	0.90
	200812	245	5.55	97	10.82	308	2.52	583	225	2.22	792	254	2.32	718	2.94	50.41	2.31	0.91
	200812	180	1.08	129	13.32				210	1.15	1034							
510191	100744	151	0.08	439	13.03	239	2.73	867	192	3.63	704	208	3.31	761	2.63	78.85	2.60	0.88
	200743	564	0.07	110	10.39	372	1.99	1160	356	1.81	1151	361	1.87	1154	4.58	44.54	4.42	0.98
	200743	450	0.05	110	10.80				377	1.87	1044							
510271	100441	221	4.15	130	11.47	267	4.37	579	205	4.05	772	226	4.16	704	2.86	99.09	2.48	0.90
	200727	242	4.62	95	11.35	326	2.29	741	252	1.98	838	277	2.08	804	3.51	49.54	2.97	0.95
	200727	202	3.65	95	11.93				259	2.23	812							
510127	100256	235	1.42	197	12.84	852	4.30	878	286	5.54	681	484	5.10	749	5.60	110.84	2.39	0.90
	200710	324	6.33	111	9.99	521	4.99	1010	341	4.08	1286	403	4.39	1189	4.67	95.41	4.22	1.00
	200710	251	5.95	98	10.23				298	3.62	1031							
510042	100099	198	4.78	100	11.13	439	7.88	324	257	7.76	367	320	7.80	351	2.96	135.58	0.87	0.88
	200670	118	2.79	120	12.54	307	4.19	769	189	3.74	815	230	3.89	798	2.12	67.61	2.17	0.96
	200670	101	1.41	132	13.06				163	3.23	856							
510054	100134	278	1.24	207	12.42	402	3.12	1389	253	2.49	1334	305	2.71	1353	3.13	52.32	3.75	0.88
	200728	830	0.08	584	12.17	452	2.18	1800	430	1.42	2209	437	1.68	2065	4.49	32.43	6.47	0.99
	200728	796	0.04	445	11.48				370	0.91	1845							
510056	100133	299	5.73	115	9.15	446	6.09	600	347	5.23	651	381	5.53	633	3.91	106.77	1.75	0.87
	200792	223	4.87	45	9.99	429	4.95	956	265	2.63	1459	322	3.44	1282	3.31	66.42	3.60	0.89
	200792	201	3.52	101	11.56				237	2.21	1640							
510052	100124	181	3.21	124	11.92	292	3.98	469	188	3.87	574	224	3.90	537	2.59	84.75	1.69	0.89
	200671	116	0.56	112	14.02	255	2.72	529	216	2.22	579	229	2.39	561	2.65	51.94	2.34	1.18
	200671	97	0.17	123	13.85				235	2.01	687							
510062	100143	205	3.95	120	11.00	268	2.52	848	170	1.68	1051	204	1.97	979	2.36	42.81	3.13	0.90
	200662	277	6.08	63	10.45	349	2.74	961	272	2.33	1045	298	2.47	1015	3.44	53.68	3.31	0.92
	200662	243	5.20	97	11.05				240	1.83	1204							
510067	100150	183	3.32	127	11.00	217	2.87	837	162	2.30	1022	181	2.49	957	2.29	59.31	3.30	0.88
	200794	177	3.52	89	12.13	199	1.76	900	165	1.59	1016	176	1.64	975	2.23	39.06	3.38	0.89
	200794	145	3.72	65	11.84				140	1.84	665							
510068	100149	126	0.80	127	11.98	220	2.58	612	159	1.47	778	180	1.85	719	2.08	40.20	2.26	0.88
	200819	161	1.54	104	12.75	320	2.63	591	222	1.42	721	256	1.84	675	2.96	39.98	2.19	0.91
	200819	175	2.08	93	12.41				264	2.02	709							

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510238	100412	238	7.06	168	9.22	269	4.23	660	198	4.75	624	222	4.56	636	2.81	108.63	2.23	0.90
	200730	241	3.07	114	12.02	350	2.90	740	291	2.47	813	311	2.62	787	3.94	62.40	3.04	0.99
	200730	202	2.14	117	12.56				287	2.41	843							
510079	100174	278	5.47	100	7.84	401	4.33	1067	303	3.84	1269	337	4.01	1198	4.59	102.57	4.47	0.89
	200754	242	5.89	206	10.72	344	3.02	1100	251	2.54	1411	283	2.70	1302	3.85	69.06	4.94	0.90
	200754	269	5.26	72	11.03				267	1.95	1329							
510111	100225	227	2.49	78	9.56	481	3.61	995	303	3.40	920	365	3.47	946	4.97	88.76	3.58	0.90
	200813	136	1.27	94	13.39	355	3.13	673	227	2.16	722	271	2.49	704	3.69	63.69	2.93	0.99
	200813	128	1.44	96	13.34				241	2.81	584							
510081	100173	203	4.25	127	8.41	330	4.85	488	162	4.02	553	220	4.31	530	3.16	116.38	2.09	0.89
	200639	216	6.17	76	10.36	247	4.04	382	162	3.20	486	191	3.49	449	2.74	94.24	1.82	0.92
	200639	326	6.29	90	10.23				247	2.79	973							
510069	100148	202	2.30	72	6.55	426	3.85	1177	298	2.06	1600	342	2.68	1451	3.95	58.24	4.53	0.88
	200640	245	3.42	121	11.85	420	4.91	1198	278	2.21	1670	327	3.15	1504	3.78	68.45	4.96	0.92
	200640	120	2.12	162	12.96				173	1.66	1324							
510050	100122	178	5.20	147	10.85	212	2.80	1205	160	2.93	1325	178	2.88	1282	2.42	73.66	4.76	0.88
	200740	234	4.74	85	11.24	284	2.87	941	201	1.91	1115	230	2.24	1054	3.13	57.29	4.34	0.98
	200740	213	3.87	95	11.76				187	1.65	1233							
510072	100157	157	2.42	160	11.51	249	2.74	1370	167	2.14	1667	195	2.35	1563	2.65	60.10	5.83	0.89
	200821	164	3.78	101	12.25	264	3.08	1168	194	2.21	1453	218	2.51	1353	2.96	64.20	5.46	0.96
	200821	229	5.98	83	10.59				229	3.09	1122							
51	100387	167	2.32	112	13.06	199	2.95	1016	166	2.69	1017	177	2.78	1016	2.41	71.11	3.74	0.88
	200713	159	2.50	91	12.75	329	3.40	789	277	3.03	795	295	3.15	792	4.01	80.57	3.09	0.93
	200713	145	2.34	97	12.86				276	3.17	767							
510045	100104	205	3.83	108	10.81	352	3.55	318	178	3.10	414	238	3.25	380	2.92	74.88	1.24	0.87
	200712	250	3.22	81	11.63	311	3.27	331	211	2.55	354	245	2.80	345	3.60	64.51	1.27	0.98
	200712	196	2.42	88	12.27				192	2.12	430							
510048	100115	128	2.81	119	12.20	368	3.26	491	159	2.93	531	232	3.04	519	3.16	77.76	1.90	0.88
	200641	124	5.07	92	10.82	459	4.86	380	157	4.09	473	262	4.35	440	3.56	111.26	1.75	0.95
	200641	56	0.12	135	12.79				109	2.24	905							
510109	100216	219	5.09	123	8.81	487	3.71	1544	342	3.11	1591	392	3.31	1574	2.83	44.95	3.16	0.90
	200750	237	5.97	58	10.73	487	3.36	1231	374	2.53	1388	413	2.82	1333	2.98	38.30	2.68	0.91
	200750	394	8.30	90	9.33				688	2.60	1762							
510019	100040	250	2.97	177	12.86	403	5.81	658	256	3.75	1101	307	4.47	945	2.70	74.00	2.30	0.90
	200638	267	3.25	173	12.69	459	4.33	1131	341	2.31	1795	382	3.01	1562	3.36	49.83	3.82	0.90
	200638	315	6.16	102	10.47				478	3.26	1634							
510169	100331	266	4.87	162	11.69	344	2.49	2273	253	1.42	2791	284	1.79	2609	2.50	29.63	6.19	0.87
	200809	361	5.82	124	10.65	521	3.11	2167	404	1.61	2827	444	2.13	2595	3.91	35.26	6.60	0.94
	200809	323	3.94	162	11.91				416	1.31	2701							
510172	100332	249	8.58	112	9.63	441	3.64	1382	359	2.96	1825	387	3.19	1669	2.79	43.32	3.24	0.87
	200735	316	7.18	86	9.99	944	4.94	1109	620	3.24	1490	733	3.83	1356	5.30	52.01	2.78	0.92
	200735	352	7.31	87	9.87				568	2.56	2087							

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510115	100234	236	5.11	123	10.87	462	2.78	1270	280	2.65	1364	343	2.69	1331	3.17	46.75	3.38	0.89
	200795	211	4.57	77	11.68	414	2.34	1318	315	1.64	1672	349	1.88	1548	3.23	32.67	3.90	0.89
	200795	289	5.69	71	10.80				356	1.95	1811							
510196	100351	292	4.08	257	11.72	294	2.58	1999	267	3.05	1752	276	2.88	1838	2.83	55.60	4.98	0.86
	200724	261	2.87	243	12.80	365	1.33	2597	279	1.30	2473	309	1.31	2516	3.17	25.29	7.47	0.94
	200724	277	1.60	144	13.31				315	1.30	2064							
510002	100003	229	3.43	221	12.29	297	2.04	799	220	2.15	939	246	2.11	889	2.84	45.85	2.81	0.89
	200626	156	1.72	206	13.55	272	1.97	930	199	1.62	1014	224	1.74	984	2.59	37.81	3.24	0.93
	200626	155	1.77	247	13.57				209	1.80	986							
510003	100004	274	3.38	148	12.32	267	1.88	914	230	2.10	954	242	2.02	940	2.80	43.90	2.97	0.89
	200628	156	1.85	247	13.42	255	1.74	1073	178	1.47	1224	204	1.56	1171	2.36	33.90	4.10	0.98
	200628	135	0.84	289	13.91				165	1.09	1137							
510129	100255	494	5.36	147	10.74	841	3.27	605	803	3.36	633	816	3.32	623	8.49	64.83	1.78	0.90
	200781	154	4.59	108	11.39	319	2.70	491	242	2.61	535	268	2.64	519	2.79	51.55	1.53	0.92
	200781	131	3.89	91	12.13				224	2.07	568							
510043	100107	225	1.93	345	13.51	274	2.03	1414	194	2.14	1381	222	2.10	1392	2.81	50.02	4.72	0.87
	200666	171	0.78	244	13.75	307	1.53	1383	243	1.32	1430	265	1.39	1413	3.36	33.11	5.03	0.91
	200666	176	1.13	180	13.54				283	1.36	1558							
510122	100247	326	4.46	263	11.84	297	1.63	918	223	2.02	977	248	1.88	956	2.87	40.85	3.08	0.90
	200725	263	2.96	196	12.34	272	1.48	758	192	1.05	884	220	1.20	839	2.54	26.07	2.77	0.93
	200725	281	3.21	210	12.03				224	1.19	852							
510134	100274	170	1.69	356	13.73	314	1.77	1170	161	2.26	1241	214	2.08	1216	2.91	53.20	4.44	0.87
	200818	139	0.78	274	14.04	213	1.26	948	136	0.66	1146	162	0.87	1076	2.20	22.25	4.12	0.91
	200818	119	0.78	277	13.93				132	0.93	998							
510137	100263	211	3.05	212	12.79	258	1.54	1045	179	1.92	1050	206	1.78	1048	2.81	45.53	3.95	0.90
	200783	149	1.26	174	14.01	189	1.23	926	141	0.69	1130	157	0.87	1058	2.14	22.25	4.04	0.91
	200783	290	5.15	55	11.38				189	1.10	1046							
510173	100322	237	5.06	164	11.53	301	2.58	1356	211	2.90	1297	242	2.78	1317	3.29	71.11	4.76	0.86
	200817	212	3.52	144	12.19	400	3.08	1119	262	1.64	1380	310	2.14	1288	4.22	54.73	4.95	0.92
	200817	232	4.34	443	11.77				306	2.77	1131							
510174	100323	206	3.90	298	12.47	274	2.16	1377	178	2.50	1409	211	2.38	1397	3.03	64.26	5.33	0.86
	200736	197	3.94	134	11.93	299	1.96	1295	224	1.74	1300	250	1.81	1298	3.59	48.87	5.29	0.92
	200736	263	2.64	211	12.60				233	1.12	1467							
510285	100458	179	0.06	258	12.07	269	1.02	1990	229	1.35	2004	242	1.23	1999	3.48	33.21	8.38	0.95
	200787	104	0.07	216	13.47	265	0.96	1660	228	0.87	1869	240	0.90	1795	3.45	24.29	7.07	0.89
	200787	94	0.03	204	13.15				219	0.82	1885							
510262	100467	186	5.43	101	10.98	302	2.58	993	265	3.27	917	277	3.02	943	3.16	64.79	3.41	1.03
	200805	158	4.72	108	11.55	219	1.00	1467	248	2.76	901	237	2.14	1099	2.70	45.91	3.63	0.94
	200805	272	7.37	87	9.87				344	3.20	824							
510215	100371	210	2.25	220	12.99	243	1.42	1685	211	2.33	1471	222	2.01	1545	2.28	38.81	4.42	0.90
	200738	175	1.22	302	13.69	304	0.82	2342	265	1.01	2256	278	0.94	2286	2.85	18.14	6.74	0.93
	200738	258	1.34	478	13.67				294	1.19	2799							

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510222	100381	139	1.53	166	13.86	345	3.70	898	289	4.16	882	308	3.99	887	3.20	78.07	2.51	0.89
	200737	141	3.44	124	12.52	316	1.65	1680	261	1.65	1658	280	1.64	1665	2.91	32.09	4.86	0.91
	200737	172	2.92	129	12.88				290	1.62	2104							
510216	100370	260	3.65	186	12.45	310	1.96	1019	221	1.55	1188	252	1.69	1128	3.19	40.25	3.97	0.90
	200688	252	3.22	157	12.79	365	2.36	967	241	1.15	1215	284	1.57	1128	3.60	37.39	4.38	1.00
	200688	261	3.84	126	12.30				244	1.50	1136							
510152	100296	204	3.75	211	12.38	215	1.63	1615	156	2.16	1685	176	1.97	1660	2.39	50.38	6.15	0.88
	200811	328	5.39	116	11.20	459	2.42	1074	332	1.75	1254	376	1.98	1191	5.12	50.64	4.48	0.90
	200811	326	5.62	122	10.96				320	1.93	1234							
510164	100305	183	5.76	146	11.06	204	1.95	1568	139	2.12	1644	161	2.06	1617	2.19	52.69	5.95	0.88
	200711	247	5.51	165	11.22	263	2.36	1071	221	2.43	1164	235	2.40	1131	3.20	61.39	4.71	0.99
	200711	236	5.05	159	11.61				209	2.14	1312							
510208	100362	259	5.35	160	11.28	275	2.27	1522	209	2.30	1676	232	2.28	1622	3.16	58.32	6.26	0.92
	200741	200	2.58	184	13.06	214	1.23	1859	183	0.91	2030	193	1.02	1970	2.62	26.09	7.99	0.97
	200741	191	2.28	178	13.32				176	0.86	1827							
510221	100382	221	4.36	206	11.87	220	1.63	1382	178	2.45	1485	192	2.16	1448	2.62	55.25	5.37	0.89
	200820	287	6.71	107	10.38	312	1.86	1185	229	1.86	1320	258	1.86	1272	3.51	47.57	4.92	0.92
	200820	227	5.05	113	11.26				180	1.99	748							
510178	100324	255	3.11	223	12.97	274	1.61	2045	204	1.82	2101	228	1.74	2081	3.27	46.98	7.96	0.86
	200748	206	3.65	155	12.27	328	2.26	1158	228	1.75	1315	263	1.92	1260	3.78	51.84	5.12	0.92
	200748	253	3.00	182	12.68				270	1.95	1495							
510155	100294	155	1.81	350	11.25	208	1.46	1017	121	1.40	1066	151	1.42	1048	2.25	39.89	4.26	0.88
	200797	149	1.05	206	11.18	209	1.31	1221	173	0.91	1393	185	1.04	1332	2.76	29.21	5.43	0.88
	200797	124	1.99	122	11.32				108	1.26	926							
510039	100095	271	6.66	209	10.18	389	5.69	868	298	6.61	531	329	6.28	648	2.90	103.96	1.55	0.88
	200687	276	3.79	256	12.01	462	5.68	720	269	3.48	963	336	4.25	877	2.96	70.35	2.37	1.00
	200687	368	3.87	174	11.97				268	3.13	788							
510101	100203	227	4.44	384	8.37	308	4.92	1001	214	5.09	681	246	5.42	792	2.16	89.72	1.89	0.88
	200613	506	7.09	157	9.89	406	5.14	833	333	4.06	811	358	4.43	818	3.15	73.33	2.19	0.99
	200613	493	6.88	134	10.02				329	4.03	675							
510157	100307	235	5.29	153	10.81	305	4.60	818	265	5.17	583	278	4.97	665	2.20	74.04	1.42	0.88
	200682	143	1.94	136	12.89	348	3.39	760	311	3.41	691	323	3.40	715	2.56	50.65	1.86	1.07
	200682	131	1.88	120	12.61				282	3.22	665							
510097	100196	222	2.26	212	9.90	260	3.07	900	157	1.65	1101	193	2.14	1030	2.23	46.50	3.29	0.90
	200672	273	4.96	117	11.34	181	2.93	785	130	1.68	1031	147	2.11	944	1.70	45.85	3.96	1.18
	200672	278	4.84	114	11.45				140	1.75	957							
510104	100211	259	4.04	87	8.78	415	2.83	1008	260	1.85	1199	314	2.19	1132	3.27	42.85	3.09	0.85
	200721	197	3.28	97	12.30	334	2.76	742	233	2.24	717	268	2.42	725	2.79	47.35	2.17	0.94
	200721	229	2.40	90	12.95				258	1.99	802							
510153	100299	227	4.45	101	11.59	353	5.67	349	216	4.68	413	263	5.02	390	2.74	98.23	1.09	0.88
	200804	271	7.33	61	9.91	400	5.57	279	239	4.67	328	295	4.98	310	3.07	97.44	0.92	0.93
	200804	353	6.59	54	10.22				268	4.03	390							

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510209	100366	319	5.84	105	10.19	204	2.87	681	175	3.54	600	185	3.30	628	2.14	71.71	2.06	0.92
	200729	318	4.05	81	11.71	285	3.79	618	211	2.96	477	236	3.25	526	2.73	70.62	1.83	0.98
	200729	307	3.52	92	12.19				209	3.27	469							
510020	100048	258	3.08	150	12.64	207	2.42	419	146	2.01	470	167	2.15	452	1.93	46.72	1.44	0.90
	200378	554	4.23	94	11.35	383	1.56	812	340	1.61	779	355	1.59	790	4.10	34.55	2.45	0.87
	200378	605	4.09	113	11.32				320	1.81	857							
510032	100087	273	3.06	163	12.58	253	3.76	417	128	2.99	512	171	3.25	478	1.97	70.62	1.52	0.90
	200689	335	2.26	201	13.25	288	1.53	783	228	1.21	910	249	1.32	865	2.88	28.68	3.05	0.99
	200689	357	2.32	135	12.95				251	1.20	819							
510149	100298	133	0.73	256	14.01	227	2.11	681	173	2.95	682	191	2.65	681	2.18	56.85	2.11	0.88
	200719	239	0.23	138	13.42	218	0.34	926	198	0.30	1049	205	0.31	1005	2.34	6.64	3.37	0.95
	200719	213	0.19	183	13.23				190	0.32	939							
510187	100344	257	1.86	130	13.17	447	4.95	293	352	5.53	315	385	5.32	307	4.01	104.09	0.86	0.88
	200803	1450	7.28	72	9.46	891	1.95	598	802	2.26	626	833	2.15	616	8.68	42.06	1.70	0.86
	200803	288	3.99	71	12.17				320	5.53	211							
510027	100070	114	0.14	323	12.90	146	2.11	558	93	2.09	604	111	2.09	587	1.51	53.45	2.19	0.90
	200733	155	0.06	290	13.19	183	1.44	592	112	1.35	657	136	1.38	634	1.85	35.30	2.50	0.94
	200733	172	0.04	323	13.33				120	1.50	686							
510040	100093	208	0.67	409	13.26	237	4.21	643	170	2.33	972	193	2.98	856	2.62	76.22	3.21	0.90
	200784	229	0.05	368	13.06	284	1.82	914	199	0.64	1161	228	1.05	1074	3.10	26.85	4.08	0.91
	200784	174	0.03	298	12.87				135	0.50	968							
510102	100206	208	0.89	293	10.71	282	3.48	680	215	3.45	645	238	3.46	657	3.24	88.50	2.48	0.90
	200692	245	0.26	285	13.76	324	3.00	617	220	2.10	704	256	2.41	673	3.48	61.64	2.96	1.05
	200692	261	0.49	340	13.92				212	1.77	911							
510103	100207	215	3.46	153	8.92	208	2.25	875	160	2.41	988	176	2.35	948	2.23	55.97	3.34	0.90
	200716	510	6.78	90	9.41	364	3.32	555	281	2.77	608	310	2.96	589	3.93	70.51	2.17	0.95
	200716	375	4.25	106	11.14				174	1.91	573							
510135	100269	190	4.06	261	12.20	241	3.71	758	158	2.69	983	187	3.04	904	2.13	65.22	2.81	0.89
	200747	158	3.43	80	12.33	199	2.84	726	129	1.78	784	153	2.15	763	1.74	46.12	2.37	0.88
	200747	211	2.66	93	12.86				138	1.55	887							
510219	100376	162	4.21	138	12.08	280	3.07	619	212	2.66	690	235	2.80	665	2.68	60.06	2.11	0.90
	200752	145	3.36	104	12.48	508	3.54	622	417	2.01	662	448	2.54	648	5.11	54.49	2.10	0.93
	200752	211	3.72	111	12.27				420	1.97	749							
510001	100001	169	0.05	271	12.64	166	2.28	742	124	1.76	890	138	1.94	838	1.87	49.62	3.06	0.87
	200601	224	0.98	190	13.65	242	2.21	742	170	1.29	979	195	1.61	896	2.65	41.17	4.21	1.12
	200601	184	0.47	172	13.74				146	1.21	800							
510004	100002	159	0.09	336	13.28	205	4.51	477	128	1.99	733	154	2.87	643	2.09	73.41	2.41	0.90
	200557	158	0.07	201	12.99	254	3.31	584	144	1.30	739	182	2.00	684	2.47	51.16	2.60	0.91
	200557	155	0.05	219	12.78				145	0.93	853							
510025	100076	275	3.46	180	12.06	286	4.97	383	225	5.85	317	246	5.54	340	3.12	131.97	1.17	0.89
	200656	182	0.30	317	13.06	240	3.21	674	171	2.29	809	195	2.61	761	2.47	62.17	2.94	0.99
	200656	165	0.11	250	12.57				143	1.81	748							

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510028	100072	313	8.09	110	9.51	243	4.64	382	226	4.93	352	231	4.82	362	2.67	104.75	1.15	0.90
	200691	228	2.61	122	13.03	245	2.79	631	165	1.32	793	192	1.83	736	2.22	39.77	2.72	1.04
	200691	277	1.83	207	13.63				161	1.16	889							
510094	100193	122	0.97	125	10.53	356	4.28	472	226	4.21	552	264	4.23	524	2.75	82.76	1.48	0.89
	200822	263	6.09	100	10.65	462	3.11	440	314	2.33	557	365	2.60	516	3.80	50.87	1.53	0.93
	200822	169	1.39	91	13.59				269	2.43	464							
510125	100244	200	0.50	420	13.96	201	3.89	492	146	3.23	601	165	3.46	562	2.09	82.42	1.97	0.90
	200751	188	0.23	322	14.15	225	2.63	619	143	1.37	754	171	1.81	706	2.16	43.11	2.51	0.91
	200751	171	0.10	399	13.97				134	1.18	809							
510126	100245	220	2.76	171	12.89	222	4.94	409	162	4.41	391	183	4.59	397	2.49	117.41	1.50	0.90
	200734	163	0.24	344	13.79	143	1.36	895	130	0.96	995	134	1.10	959	1.82	28.13	3.69	0.92
	200734	125	0.08	245	13.25				110	2.50	543							
510130	100252	261	3.52	153	12.04	244	5.90	317	191	4.97	384	209	5.29	360	2.65	126.02	1.25	0.90
	200760	266	0.27	409	14.14	262	2.56	804	179	0.85	988	208	1.44	923	2.63	34.29	3.14	0.87
	200760	196	0.07	580	14.01				140	0.73	967							
510140	100276	176	1.31	513	13.45	137	2.34	793	137	2.89	798	136	2.69	796	1.85	68.80	2.88	0.86
	200771	367	1.68	142	12.98	304	3.35	510	221	1.72	657	250	2.29	605	3.40	58.57	2.49	0.98
	200771	385	2.03	121	12.18				224	2.18	600							
510141	100277	360	5.57	158	11.05	264	3.38	586	239	3.72	649	247	3.60	626	2.86	78.24	1.93	0.87
	200636	268	0.65	469	13.86	219	1.93	788	196	1.31	958	204	1.52	898	2.36	33.03	3.00	0.94
	200636	221	0.39	319	13.83				150	1.81	596							
510158	100313	179	1.23	284	13.23	212	3.75	545	129	2.43	715	158	2.89	655	2.00	68.84	2.19	0.86
	200780	204	1.39	190	13.58	169	2.17	583	121	0.72	718	137	1.22	670	1.73	29.06	2.38	0.91
	200780	197	0.54	143	13.55				127	0.69	758							
510184	100349	199	3.60	167	11.96	183	4.04	442	169	6.03	352	173	5.33	383	2.19	126.97	1.30	0.88
	200814	554	5.80	67	10.60	356	2.27	809	297	1.85	830	317	1.99	822	4.02	47.40	3.26	1.01
	200814	474	6.21	84	10.22				337	2.83	762							
510190	100343	137	0.47	335	13.79	143	1.87	608	108	2.51	606	120	2.28	606	1.38	49.55	1.89	0.87
	200796	185	0.93	238	14.11	159	1.51	549	114	0.94	651	129	1.13	615	1.49	24.55	2.01	0.92
	200796	232	1.03	165	14.05				138	1.04	634							
510085	100183	214	2.46	112	9.01	226	2.46	747	195	3.24	627	205	2.96	668	2.79	75.71	2.49	0.89
	200815	3394	2.91	90	8.56	3659	2.09	340	3595	2.55	293	3617	2.38	309	49.28	60.88	1.48	1.15
	200815	3322	2.89	75	8.55				3607	2.74	270							
510108	100215	125	1.30	151	10.19	169	1.56	940	114	1.48	994	133	1.50	975	1.81	38.36	3.72	0.91
	200807	177	2.08	172	13.05	176	2.02	656	128	1.13	811	144	1.44	756	1.96	36.82	3.00	0.95
	200807	200	1.75	91	12.51				153	1.72	636							
510177	100326	169	3.63	61	11.70	194	2.53	599	179	3.23	573	184	2.98	582	2.10	63.93	1.76	0.86
	200806	172	2.88	78	12.41	209	2.47	514	263	2.42	431	244	2.43	460	2.78	52.13	1.56	0.96
	200806	241	2.60	67	12.49				208	2.50	593							
510145	100289	154	3.50	188	10.69	132	1.27	1107	135	2.70	1075	133	2.19	1086	1.81	56.02	3.99	0.88
	200658	132	3.18	112	12.02	149	2.37	857	130	2.97	686	136	2.75	745	1.85	70.34	2.95	0.95
	200658	190	3.96	95	11.15				143	3.10	667							

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510049	100113	205	3.58	150	12.01	170	1.57	634	130	1.61	718	144	1.59	688	1.82	37.87	2.33	0.87
	200759	248	1.83	174	13.25	231	1.47	780	171	0.92	910	191	1.11	864	2.42	26.44	2.90	0.86
	200759	202	1.13	113	13.44				274	0.90	1025							
510057	100128	191	2.38	140	11.52	215	2.50	532	134	1.32	718	162	1.73	652	2.05	41.21	2.24	0.88
	200776	154	0.99	164	13.68	156	1.65	527	114	0.68	776	128	1.01	688	1.62	24.06	2.62	0.98
	200776	193	0.32	120	13.54				275	0.48	1324							
510168	100336	168	2.97	265	12.93	156	2.76	634	134	2.83	721	141	2.80	690	1.92	71.62	2.54	0.88
	200652	154	2.57	193	12.90	197	2.61	612	135	2.06	708	156	2.25	674	2.12	57.55	2.75	0.98
	200652	155	1.94	156	13.19				188	1.92	611							
510059	100136	144	2.48	177	12.73	165	1.96	716	94	0.89	1021	118	1.26	914	1.60	32.22	3.36	0.88
	200660	111	0.53	145	13.93	169	1.01	746	130	0.26	853	143	0.52	815	1.94	13.29	3.12	0.92
	200660	116	0.33	181	13.91				168	0.20	891							
510138	100268	170	3.26	137	12.24	168	2.54	549	120	1.65	745	136	1.96	676	1.72	46.68	2.34	0.89
	200774	141	1.66	129	13.25	290	1.69	554	242	0.65	778	258	1.01	699	3.27	24.06	2.54	0.93
	200774	232	0.69	104	13.52				147	0.29	699							
510060	100135	254	4.02	111	11.33	363	2.47	870	263	2.42	992	297	2.43	949	3.76	57.88	3.25	0.88
	200766	126	1.84	59	13.51	303	1.26	1081	132	0.94	1186	191	1.05	1149	2.42	25.00	4.10	0.91
	200766	227	1.09	66	13.91				272	0.67	1139							
510061	100140	146	2.05	97	12.25	201	2.50	674	135	2.72	601	158	2.64	626	2.00	62.89	2.13	0.88
	200742	178	1.23	283	13.81	222	1.57	1160	184	1.59	1223	197	1.58	1200	2.49	37.63	4.52	0.97
	200742	198	1.25	197	13.72				205	1.85	991							
510084	100182	161	2.39	120	8.99	169	1.64	951	189	3.28	858	181	2.70	890	2.60	72.90	3.54	0.90
	200745	206	5.02	90	10.95	209	1.28	1105	157	1.77	1132	175	1.59	1122	2.51	42.93	4.48	0.90
	200745	227	5.56	83	10.52				182	2.48	999							
510188	100348	116	3.34	139	12.13	108	2.35	615	99	3.82	471	102	3.30	521	1.46	89.11	2.01	0.88
	200793	69	0.73	115	13.46	79	0.79	751	72	1.08	748	74	0.97	749	1.06	26.18	3.01	0.91
	200793	88	0.53	71	13.33				106	1.00	686							
510198	100350	113	3.43	130	11.72	121	2.08	637	97	3.21	560	105	2.81	586	1.50	75.87	2.21	0.86
	200686	89	1.71	139	12.99	91	1.09	783	87	1.55	694	88	1.38	725	1.26	37.26	3.47	1.08
	200686	100	1.44	117	13.03				103	1.26	739							
510183	100327	110	1.41	139	13.30	118	1.40	772	97	1.53	855	104	1.48	825	1.49	39.96	3.21	0.88
	200764	69	0.09	231	13.51	129	1.16	1111	102	0.80	1151	111	0.92	1136	1.59	24.84	4.71	0.94
	200764	69	0.09	153	13.50				138	1.20	891							
510023	100074	145	4.82	120	11.54	812	4.90	271	105	4.66	281	352	4.74	277	4.46	112.91	0.95	0.88
	200769	175	0.37	163	14.09	168	2.89	319	159	2.83	298	162	2.85	305	2.05	67.89	1.10	0.93
	200769	215	0.54	87	13.39				196	2.99	280							
510024	100073	121	1.51	206	13.27	122	3.20	376	94	2.98	419	103	3.05	403	1.30	72.65	1.39	0.89
	200758	199	3.22	65	12.30	137	1.68	416	123	1.48	425	127	1.55	421	1.61	36.92	1.45	0.88
	200758	190	2.63	72	12.74				142	1.64	419							
510029	100077	119	1.67	191	13.56	119	4.70	278	65	4.14	342	83	4.33	319	1.05	103.14	1.12	0.91
	200768	102	0.67	141	14.07	130	2.61	379	110	2.33	393	117	2.42	388	1.48	57.64	1.39	0.92
	200768	122	0.60	74	13.74				148	2.37	334							

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510144	100285	180	2.66	221	13.20	171	1.56	786	135	1.41	888	147	1.46	852	1.86	34.78	2.91	0.87
	200788	182	0.73	135	13.65	140	1.70	541	112	0.73	631	121	1.06	599	1.53	25.24	2.28	0.97
	200788	182	0.52	127	13.73				125	0.56	603							
510154	100297	145	0.58	295	13.94	171	1.77	671	142	1.38	779	152	1.51	741	1.92	35.96	2.55	0.88
	200767	293	3.92	60	11.85	214	1.96	553	188	1.74	549	197	1.81	550	2.49	43.11	1.97	0.92
	200767	298	3.92	56	12.08				212	1.79	558							
510176	100321	161	2.11	222	13.45	185	2.01	897	133	1.07	1091	151	1.39	1023	1.91	33.11	3.41	0.85
	200746	226	2.12	182	13.14	273	2.25	828	223	1.06	1013	240	1.47	948	3.04	35.01	3.22	0.87
	200746	227	1.03	161	13.47				309	0.84	949							
510030	100080	171	2.49	134	13.13	113	2.23	504	122	1.67	580	118	1.86	553	1.69	50.22	2.14	0.88
	200661	145	2.31	112	13.27	147	1.97	651	123	1.53	552	131	1.68	586	1.88	45.36	2.37	0.92
	200661	163	2.72	81	13.04				181	1.86	572							
510035	100083	187	1.99	115	12.97	227	2.24	481	187	1.94	581	200	2.04	545	2.53	48.59	1.94	0.91
	200726	176	0.56	162	13.46	298	1.35	590	351	0.72	737	332	0.94	685	4.21	22.39	2.50	0.94
	200726	251	0.33	153	13.50				354	0.79	701							
510193	100359	148	1.91	134	13.28	152	2.03	787	136	1.95	783	141	1.97	784	2.02	53.19	3.04	0.88
	200761	138	1.72	107	13.23	144	2.00	476	124	1.47	519	131	1.65	503	1.88	44.55	1.95	0.88
	200761	207	2.86	82	12.65				183	1.67	498							
510017	100041	70	3.87	86	10.32	90	2.25	394	42	2.05	379	58	2.11	384	0.86	59.28	1.60	0.91
	200647	87	1.88	56	11.10	146	1.61	529	84	1.25	557	105	1.37	547	1.57	38.49	2.50	0.99
	200647	83	1.50	59	10.89				144	1.24	540							
510088	100186	38	1.61	156	8.95	83	1.78	676	22	1.53	794	43	1.61	752	0.64	45.23	3.12	0.90
	200634	58	1.48	100	11.42	80	1.66	717	49	1.85	570	59	1.78	619	0.88	50.00	2.59	0.91
	200634	101	1.82	129	11.08				149	3.59	462							
510167	100317	39	2.34	102	11.48	42	1.10	577	30	1.40	603	34	1.29	593	0.50	36.24	2.30	0.84
	200694	56	2.46	74	11.31	53	1.25	508	44	1.48	484	47	1.39	492	0.70	39.05	2.20	0.97
	200694	56	2.21	56	11.38				49	1.60	439							
510021	100068	155	1.65	102	12.55	465	3.73	806	349	3.21	793	389	3.39	797	3.08	50.44	1.71	0.88
	200646	217	0.23	82	12.82	243	1.06	1987	235	0.90	1836	237	0.95	1888	1.88	14.13	4.76	1.04
	200646	169	0.58	68	13.35				222	1.20	1689							
510250	100435	190	2.86	118	12.41	318	2.04	1078	225	2.44	1016	257	2.30	1037	2.04	34.22	2.31	0.92
	200643	189	0.57	77	13.51	305	1.77	1386	250	1.29	1390	269	1.45	1388	2.13	21.60	3.28	0.97
	200643	137	0.91	103	13.90				211	1.30	1520							
510280	100447	305	4.52	107	10.67	311	2.21	1380	212	2.48	1280	246	2.38	1315	2.16	39.40	3.55	0.99
	200732	102	0.13	307	13.85	303	2.15	1694	166	1.27	1811	213	1.57	1770	1.87	25.99	4.68	0.97
	200732	131	1.03	275	13.73				169	2.41	1410							
510287	100463	196	3.05	145	11.99	208	1.29	1679	173	1.66	1552	185	1.53	1596	1.63	25.32	4.10	0.94
	200799	82	0.07	243	13.16	255	1.51	1593	163	1.09	1629	195	1.23	1616	1.71	20.36	3.85	0.88
	200799	79	0.09	308	13.40				151	1.21	1567							
510005	100260	305	4.85	155	11.24	539	3.46	1367	383	3.52	1354	437	3.49	1358	3.16	47.39	2.73	0.90
	200693	214	5.61	95	9.04	445	3.64	668	308	3.63	706	356	3.63	692	2.57	49.29	1.59	1.04
	200693	243	5.42	84	8.96				270	3.88	655							

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1971 VEHICLE TEST DATA

CAR NO	RUN NO	CYCLE 7 IDLE HC	CO	NO	CO2	CYCLE 1-4 HC	CO	NO	CYCLE 6-7 HC	CO	NO	COMPOSITE HC	CO	NO	MASS HC	CO	NOXC	HUCF
510117	100236	217	5.45	116	10.61	362	3.14	1001	254	3.63	898	291	3.45	927	2.10	46.85	1.86	0.91
	200649	211	6.00	87	10.42	436	3.26	1273	350	3.69	1125	380	3.53	1176	2.74	47.94	2.59	0.99
	200649	229	5.95	100	10.39				360	4.35	841							
510160	100311	68	1.00	38	1.98	406	3.47	1065	287	3.76	871	328	3.65	938	2.37	49.57	1.80	0.86
	200683	177	4.72	110	10.72	396	3.39	752	240	3.67	583	294	3.57	642	2.12	48.48	1.57	1.10
	200683	173	4.11	89	11.39				199	3.69	505							
510163	100308	183	3.83	128	11.85	328	2.40	1626	166	2.75	1499	222	2.62	1543	1.77	39.43	3.34	0.88
	200668	218	4.00	107	11.86	332	1.98	1576	194	2.12	1475	242	2.07	1510	1.93	31.15	3.71	1.00
	200668	196	4.06	103	11.51				208	2.24	1525							
510171	100320	555	7.90	75	8.82	443	4.44	1184	377	4.41	1047	400	4.42	1094	2.89	60.02	2.06	0.85
	200723	275	0.08	127	12.91	545	1.65	1124	375	1.10	1195	434	1.29	1170	3.13	17.51	2.36	0.91
	200723	138	0.07	156	13.32				211	1.22	1229							
510229	100391	170	3.92	115	11.55	480	2.46	1138	277	2.70	1039	348	2.61	1073	2.51	35.44	2.12	0.89
	200779	182	0.70	102	13.87	303	1.68	1083	198	1.33	1116	234	1.45	1104	1.69	19.68	2.24	0.92
	200779	184	0.74	97	13.89				198	1.44	1036							
510240	100393	194	5.40	134	10.53	397	3.85	1098	227	4.15	984	286	4.04	1023	2.64	70.22	2.59	0.89
	200772	187	4.46	97	11.63	495	2.82	1027	298	2.51	1124	366	2.61	1090	3.38	45.36	2.76	0.89
	200772	172	4.07	81	12.03				220	2.49	1016							
510241	100398	505	9.32	108	8.50	578	4.24	868	519	5.12	656	539	4.81	730	3.89	65.32	1.44	0.89
	200722	217	4.21	99	11.76	636	3.58	809	392	3.76	778	451	3.69	788	3.26	50.11	1.68	0.97
	200722	226	4.48	91	11.56				321	3.64	799							
510244	100407	271	7.20	89	9.84	628	3.50	969	453	3.62	992	514	3.57	983	3.71	48.48	2.03	0.93
	200712	274	7.18	98	8.80	650	2.90	1202	506	3.45	1074	556	3.25	1118	4.02	44.13	2.31	0.93
	200712	223	5.76	94	9.75				454	3.76	897							
510245	100408	482	9.81	99	8.28	475	3.65	1236	373	4.18	1021	408	3.99	1096	2.95	54.18	2.26	0.93
	200690	309	9.00	68	8.69	410	3.55	884	254	4.11	725	308	3.91	780	2.22	53.10	1.74	1.00
	200690	324	9.39	78	8.61				237	3.98	735							
510256	100423	242	7.81	91	9.25	517	3.41	1259	254	3.21	1162	346	3.27	1195	2.50	44.40	2.39	0.90
	200744	93	0.13	97	14.00	423	2.67	1409	314	2.71	1241	352	2.69	1299	2.54	36.53	2.52	0.87
	200744	206	0.15	137	13.80				284	1.19	1482							
510257	100424	139	4.00	119	11.75	214	3.00	1148	168	4.09	830	184	3.70	941	1.47	55.68	2.08	0.90
	200786	321	4.53	95	11.54	267	3.19	1104	169	3.01	997	203	3.07	1034	1.62	46.20	2.33	0.91
	200786	159	4.48	92	11.92				167	2.92	906							
510259	100445	272	7.77	76	9.12	386	4.13	904	285	4.31	756	320	4.24	807	2.31	57.58	1.78	0.99
	200756	228	0.40	113	11.44	444	2.98	924	341	3.46	797	377	3.29	841	2.72	44.68	1.70	0.91
	200756	186	3.70	100	11.96				321	3.35	884							
510261	100429	175	3.75	208	12.10	329	2.50	1247	310	2.73	1189	316	2.64	1209	2.28	35.85	2.42	0.90
	200715	202	2.97	84	11.80	477	1.92	1756	367	1.31	1678	405	1.91	1705	2.92	25.94	3.59	0.95
	200715	195	3.51	97	11.57				289	1.17	1004							
510263	100456	227	4.74	95	11.10	296	2.27	1200	177	2.21	1017	218	2.23	1081	1.97	30.28	2.27	0.95
	200718	151	2.36	256	12.90	335	1.95	1526	226	2.22	1411	264	2.12	1451	1.90	28.79	3.02	0.94
	200718	200	2.30	119	12.86				223	2.02	1201							

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1971 VEHICLE TEST DATA

CAR NO	RUN NO	CYCLE 7 IDLE HC	CYCLE 7 IDLE CO	CYCLE 7 IDLE NO	CYCLE 7 IDLE CO2	CYCLE 1-4 HC	CYCLE 1-4 CO	CYCLE 1-4 NO	CYCLE 6-7 HC	CYCLE 6-7 CO	CYCLE 6-7 NO	COMPOSITE HC	COMPOSITE CO	COMPOSITE NO	MASS HC	MASS CO	MASS NOXC	MASS HUCF
510269	100436	155	4.28	124	11.41	301	2.18	1316	179	2.01	1397	221	2.06	1368	1.59	27.97	2.77	0.91
	200801	213	5.07	93	10.61	325	3.27	1065	257	2.88	878	280	3.01	943	2.02	40.88	1.78	0.85
	200801	189	4.69	86	10.88				257	2.95	878							
510274	100449	95	1.64	191	13.57	377	2.92	1384	231	2.71	1258	282	2.78	1302	2.61	48.32	3.69	0.99
	200749	97	1.67	169	13.25	299	1.96	1588	243	1.90	1467	262	1.92	1509	2.42	33.37	3.84	0.89
	200749	204	3.23	109	12.15				274	2.09	1422							
510275	100448	206	5.10	142	11.23	343	2.33	1380	210	1.88	1471	256	2.03	1439	2.36	35.28	4.07	0.99
	200765	96	0.20	141	14.38	207	1.37	1379	146	1.50	1297	167	1.45	1325	1.54	25.20	3.50	0.93
	200765	149	1.98	91	13.52				174	2.68	1000							
510212	100369	286	1.79	86	13.29	397	1.10	881	276	1.44	801	318	1.32	828	2.30	17.92	1.66	0.90
	200717	432	0.28	98	12.85	499	0.45	1234	344	0.34	1200	398	0.37	1211	2.87	5.02	2.56	0.95
	200717	461	1.15	85	13.15				283	0.70	1196							

APPENDIX C

VEHICLE COLD START STATISTICS

1. Legend and Interpretation of Statistical Tables.
2. Tables:
   - C-1 Houston
   - C-2 Los Angeles
   - C-3 Detroit
   - C-4 Denver
   - C-5 All Cities
   - C-6 All Cities (Excluding Denver)
   - C-7 Average Mileages - Phase I
   - C-8 Average Mileages - Phase II

LEGEND AND INTERPRETATION OF STATISTICAL TABLES

Key Words	Description
PHAS	This indicates the vehicle test phase. 1 = Phase I (Green Engine) 2 = Phase II (Stabilized Engine) 2-1 = Phase II - Phase I (Differences)
COMP	This represents the corrected and weighted emission results of the entire Federal 7-mode test as measured in parts per million (volume) for hydrocarbons and nitrogen oxides and in percent (volume) for carbon monoxide.
MASS	This represents the composite emission results of the entire Federal 7-mode test expressed in grams per mile for hydrocarbons, carbon monoxide, and nitrogen oxides.
NO_X; NO	Nitrogen oxides as dry NO, at test conditions.
$NO_X C$; NOC	Nitrogen oxides as dry NO, corrected for humidity.
N	Number of cars tested within each make for the indicated emittant and test phase.
MEAN	Indicates mean emission results for each make and vehicle test phase.
S.D.	Indicates standard deviations about the mean emission results for each make and vehicle test phase.

TABLE C-1

HOUSTON CITY — 1971 VEHICLE COLD START STATISTICS

PHAS	N	COMP HC MEAN	COMP HC S.D.	N	COMP CO MEAN	COMP CO S.D.	N	COMP NO MEAN	COMP NO S.D.	NOC MEAN	NOC S.D.	N	MASS HC MEAN	MASS HC S.D.	N	MASS CO MEAN	MASS CO S.D.	N	MASS NOX MEAN	MASS NOX S.D.	NOXC MEAN	NOXC S.D.
AMER																						
1	9	180	60	9	1.77	0.86	9	1001	313	1033	363	9	1.89	0.63	9	34.54	15.09	9	3.29	1.12	3.38	1.22
2	9	215	46	9	1.48	0.64	9	1363	345	1527	382	9	2.27	0.53	9	28.99	11.73	9	4.52	1.60	5.05	1.66
2-1	9	35	86	9	-0.29	0.74	9	361	450	494	387	9	0.38	0.59	9	-5.55	14.54	9	1.23	1.61	1.66	1.48
CHRY																						
1	10	157	56	10	1.52	0.66	10	1139	564	1097	514	10	1.95	0.59	10	38.19	11.13	10	4.34	1.98	4.19	1.80
2	10	238	66	10	2.14	0.96	10	1398	583	1424	619	10	2.97	0.73	10	51.09	25.00	10	5.34	1.99	5.43	2.11
2-1	10	81	58	10	0.62	1.00	10	259	289	327	285	10	1.01	0.76	10	12.89	24.74	10	1.00	1.12	1.24	1.09
FORD																						
1	14	180	37	14	1.42	0.76	14	1320	453	1339	513	14	1.86	0.32	14	26.53	11.01	14	4.18	1.40	4.24	1.56
2	14	328	187	14	2.27	1.87	14	1353	673	1491	695	14	3.20	1.15	14	40.15	22.73	14	4.37	2.30	4.85	2.24
2-1	14	148	171	14	0.85	1.54	14	33	456	151	456	14	1.35	1.23	14	13.62	21.43	14	0.19	1.16	0.61	1.33
CHEV																						
1	13	122	27	13	1.08	0.66	13	741	139	763	157	13	1.38	0.33	13	23.10	14.07	13	2.61	0.58	2.68	0.62
2	13	198	80	13	1.42	1.12	12	945	279	1052	270	13	2.22	0.85	13	28.84	17.49	12	3.62	1.15	3.81	1.08
2-1	13	76	70	13	0.34	1.23	12	263	262	302	286	13	0.84	0.75	13	5.74	18.91	12	0.99	1.02	1.11	1.01
PONT																						
1	0	0	0	0	0.0	0.0	0	0	0	0	0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0.0	0.0
2	0	0	0	0	0.0	0.0	0	0	0	0	0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0.0	0.0
2-1	0	0	0	0	0.0	0.0	0	0	0	0	0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0.0	0.0
OLDS																						
1	5	57	13	5	0.47	0.14	5	592	45	606	29	5	0.78	0.17	5	12.42	3.98	5	2.53	0.27	2.58	0.09
2	5	94	33	5	0.48	0.20	5	739	288	861	334	5	1.32	0.51	5	12.32	4.65	5	3.16	1.29	3.68	1.51
2-1	5	37	30	5	0.01	0.28	5	147	317	255	345	5	0.54	0.44	5	-0.11	7.01	5	0.63	1.39	1.10	1.54
BUIC																						
1	4	68	18	4	0.74	0.36	4	548	108	587	93	4	0.94	0.21	4	18.89	7.79	4	2.56	0.47	2.52	0.43
2	4	116	71	4	1.16	0.74	4	583	70	624	40	4	1.65	1.06	4	30.77	20.50	4	2.40	0.16	2.68	0.18
2-1	4	48	80	4	0.42	0.49	4	-35	122	47	58	4	0.70	1.14	4	11.88	25.05	4	-0.16	0.55	0.16	0.27
CADI																						
1	1	45	0	1	0.62	0.0	1	452	0	438	0	1	0.67	0.0	1	17.41	0.0	1	2.08	0.0	2.02	0.0
2	1	59	0	1	0.50	0.0	1	671	0	711	0	1	0.87	0.0	1	14.04	0.0	1	3.08	0.0	3.27	0.0
2-1	1	14	0	1	-0.12	0.0	1	219	0	272	0	1	0.20	0.0	1	-3.37	0.0	1	1.00	0.0	1.25	0.0
G.M.																						
1	23	95	39	23	0.87	0.57	23	671	141	694	156	23	1.14	0.39	23	19.80	11.76	23	2.56	0.49	2.60	0.50
2	23	155	83	23	1.13	0.96	22	844	239	915	299	23	1.87	0.89	23	24.96	16.88	22	3.27	1.11	3.55	1.11
2-1	23	60	64	23	0.26	0.99	22	180	275	242	276	23	0.72	0.74	23	5.14	17.54	22	0.70	1.07	0.94	1.07
VOLK																						
1	9	203	40	9	1.43	1.11	9	1215	252	1214	314	9	1.55	0.32	9	26.99	14.46	9	2.90	0.75	2.95	0.82
2	9	277	73	9	2.26	1.46	9	1163	423	1303	456	9	2.10	0.48	9	31.57	19.13	9	2.76	1.06	3.09	1.14
2-1	9	74	59	9	0.83	0.50	9	-51	257	63	259	9	0.55	0.43	9	4.58	6.82	9	-0.14	0.62	0.14	0.64
ALL																						
1	65	149	60	65	1.37	0.82	65	1004	429	1014	445	65	1.58	0.55	65	27.12	13.80	65	3.33	1.35	3.35	1.35
2	65	230	125	65	1.74	1.32	64	1160	517	1261	545	65	2.41	1.00	65	33.72	21.01	64	3.94	1.74	4.27	1.83
2-1	65	80	103	65	0.36	1.09	64	153	361	245	352	65	0.83	0.90	65	6.60	18.88	64	0.59	1.19	0.91	1.20

TABLE C-2

LOS ANGELES CITY — 1971 VEHICLE COLD START STATISTICS

PHAS	N	COMP HC MEAN	COMP HC S.D.	N	COMP CO MEAN	COMP CO S.D.	N	COMP NO MEAN	COMP NO S.D.	NOC MEAN	NOC S.D.	N	MASS HC MEAN	MASS HC S.D.	N	MASS CO MEAN	MASS CO S.D.	N	MASS NOX MEAN	MASS NOX S.D.	NOXC MEAN	NOXC S.D.
AMER																						
1	8	100	30	8	0.64	0.28	8	773	200	725	188	8	1.06	0.35	8	12.64	5.29	8	2.53	0.78	2.36	0.69
2	8	155	36	8	1.40	0.74	8	974	373	904	324	8	1.64	0.39	8	27.18	14.13	8	3.16	1.17	2.94	1.03
2-1	8	55	34	8	0.76	0.77	8	201	257	179	173	8	0.58	0.35	8	14.54	15.20	8	0.63	0.94	0.57	0.56
CHRY																						
1	23	132	98	23	1.39	0.76	23	914	278	863	269	23	1.74	1.41	23	34.41	19.21	23	3.69	1.17	3.49	1.13
2	23	133	51	23	1.57	1.06	23	979	430	935	398	23	1.75	0.73	23	39.11	27.50	23	3.95	1.66	3.78	1.57
2-1	23	0	91	23	0.18	1.29	23	65	398	71	370	23	0.01	1.28	23	4.70	32.60	23	0.26	1.60	0.29	1.50
FORD																						
1	30	107	41	30	0.64	0.36	30	975	167	903	155	30	1.24	0.43	30	13.96	7.34	30	3.59	0.69	3.33	0.67
2	30	130	66	30	1.05	0.68	30	1027	370	986	358	30	1.47	0.60	30	22.42	13.39	30	3.73	1.20	3.58	1.15
2-1	30	23	54	30	0.41	0.65	30	51	337	82	304	30	0.23	0.62	30	8.46	14.48	30	0.14	1.17	0.25	1.05
CHEV																						
1	22	94	51	22	0.80	0.47	22	844	195	791	177	22	1.14	0.55	22	17.96	8.50	22	3.23	0.82	3.03	0.75
2	22	173	187	22	0.80	0.69	22	962	267	948	250	22	2.07	2.21	22	17.61	13.58	22	3.67	1.06	3.62	0.98
2-1	22	78	156	22	-0.01	0.64	22	117	191	156	187	22	0.93	1.84	22	-0.35	14.34	22	0.44	0.71	0.59	0.70
PONT																						
1	6	84	16	6	0.84	0.56	6	765	131	705	119	6	1.15	0.26	6	21.82	14.58	6	3.21	0.45	2.96	0.43
2	6	122	41	6	0.89	1.01	6	714	190	709	180	6	1.67	0.55	6	23.14	25.96	6	2.99	0.73	2.98	0.71
2-1	6	38	36	6	0.06	0.54	6	-51	93	4	93	6	0.51	0.48	6	1.32	14.11	6	-0.22	0.40	0.02	0.41
OLDS																						
1	4	52	17	4	0.25	0.10	4	749	61	707	65	4	0.69	0.20	4	6.24	2.55	4	3.11	0.28	2.94	0.38
2	4	75	63	4	0.24	0.08	4	1106	426	1050	346	4	0.98	0.77	4	6.02	2.10	4	4.55	1.52	4.33	1.21
2-1	4	23	46	4	-0.01	0.17	4	357	407	343	366	4	0.28	0.59	4	-0.22	4.56	4	1.44	1.57	1.39	1.41
BUIC																						
1	6	57	12	6	0.41	0.07	6	628	95	585	106	6	0.77	0.17	6	10.38	2.11	6	2.62	0.47	2.43	0.50
2	6	110	83	6	0.71	0.31	6	666	152	647	141	6	1.45	1.02	6	17.61	6.66	6	2.77	0.69	2.69	0.67
2-1	6	53	88	6	0.30	0.32	6	37	88	62	103	6	0.69	1.13	6	7.22	7.53	6	0.15	0.36	0.26	0.45
CADI																						
1	2	34	7	2	0.36	0.11	2	553	18	513	6	2	0.51	0.11	2	10.24	2.98	2	2.55	0.09	2.36	0.02
2	2	49	12	2	0.48	0.16	2	729	120	725	78	2	0.72	0.19	2	13.62	4.57	2	3.36	0.56	3.34	0.37
2-1	2	14	4	2	0.12	0.27	2	176	138	211	72	2	0.22	0.08	2	3.37	7.54	2	0.81	0.65	0.98	0.35
G.M.																						
1	40	80	43	40	0.67	0.46	40	776	181	725	168	40	1.01	0.47	40	15.84	9.55	40	3.09	0.70	2.89	0.65
2	40	140	148	40	0.73	0.66	40	883	286	866	263	40	1.74	1.74	40	17.08	14.53	40	3.51	1.08	3.44	0.99
2-1	40	60	122	40	0.05	0.53	40	107	215	141	200	40	0.73	1.45	40	1.24	12.41	40	0.41	0.84	0.55	0.78
VOLK																						
1	11	223	72	11	1.73	0.65	11	1237	302	1150	275	11	1.67	0.56	11	24.09	8.52	11	2.89	0.93	2.69	0.85
2	11	261	108	11	2.32	0.74	11	1036	334	1004	323	11	1.93	0.76	11	32.24	9.63	11	2.43	0.99	2.37	0.94
2-1	11	38	97	11	0.59	0.80	11	-201	215	-140	220	11	0.26	0.73	11	8.16	10.93	11	-0.46	0.49	-0.32	0.51
ALL																						
1	112	113	72	112	0.91	0.65	112	902	254	843	237	112	1.29	0.80	112	19.73	13.86	112	3.29	0.90	3.07	0.86
2	112	149	109	112	1.19	0.91	112	963	352	929	329	112	1.68	1.16	112	25.24	19.05	112	3.53	1.30	3.41	1.22
2-1	112	35	95	112	0.28	0.83	112	60	308	86	280	112	0.39	1.14	112	5.51	18.99	112	0.24	1.12	0.33	1.03

TABLE C-3

DETROIT CITY — 1971 VEHICLE COLD START STATISTICS

PHAS	N	COMP HC MEAN	COMP HC S.D.	N	COMP CO MEAN	COMP CO S.D.	N	COMP NO MEAN	COMP NO S.D.	NOC MEAN	NOC S.D.	N	MASS HC MEAN	MASS HC S.D.	N	MASS CO MEAN	MASS CO S.D.	N	MASS NOX MEAN	MASS NOX S.D.	NOXC MEAN	NOXC S.D.
AMER																						
1	0	0	0	0	0.0	0.0	0	0	0	0	0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0.0	0.0
2	0	0	0	0	0.0	0.0	0	0	0	0	0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0.0	0.0
2-1	0	0	0	0	0.0	0.0	0	0	0	0	0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0.0	0.0
CHRY																						
1	9	148	39	9	1.79	0.68	9	874	212	828	211	9	1.92	0.42	9	43.24	14.67	9	3.56	0.97	3.37	0.95
2	9	193	62	9	1.67	0.84	9	1062	338	1035	280	9	2.51	0.76	9	40.94	20.16	9	4.29	1.41	4.17	1.15
2-1	9	44	72	9	-0.12	1.26	9	187	216	207	191	9	0.59	0.99	9	-2.30	31.81	9	0.73	0.88	0.80	0.76
FORD																						
1	15	199	44	15	1.36	0.68	15	1130	536	1059	467	15	2.36	0.46	15	31.03	16.84	15	4.11	1.74	3.86	1.53
2	15	262	62	15	1.32	0.58	15	1355	526	1342	508	15	3.13	0.78	15	30.13	14.18	15	4.95	1.77	4.91	1.73
2-1	15	63	56	15	-0.03	0.62	15	224	167	282	201	15	0.77	0.70	15	-0.90	13.54	15	0.84	0.59	1.05	0.71
CHEV																						
1	13	129	55	13	0.98	0.50	13	810	242	770	214	13	1.46	0.61	13	20.64	9.21	13	2.80	0.79	2.67	0.70
2	13	255	149	13	1.46	1.05	13	854	218	849	223	13	2.89	1.72	13	29.79	20.09	13	3.01	0.87	3.00	0.91
2-1	13	126	121	13	0.46	0.83	13	44	327	78	307	13	1.44	1.41	13	9.15	17.66	13	0.20	1.18	0.33	1.09
PONT																						
1	2	126	58	2	1.90	1.31	2	487	170	442	148	2	1.60	0.74	2	45.47	31.23	2	1.89	0.67	1.71	0.59
2	2	160	79	2	2.19	2.32	2	468	130	511	212	2	2.03	1.00	2	52.28	55.37	2	1.83	0.52	1.99	0.84
2-1	2	33	137	2	0.28	3.63	2	-19	301	69	361	2	0.43	1.75	2	6.81	86.51	2	-0.06	1.20	0.28	1.43
OLDS																						
1	3	58	24	3	0.49	0.18	3	711	43	671	39	3	0.81	0.32	3	13.02	4.31	3	3.10	0.09	2.92	0.08
2	3	215	167	3	0.75	0.64	3	850	274	883	334	3	3.05	2.43	3	19.68	16.09	3	3.68	1.09	3.85	1.35
2-1	3	157	179	3	0.26	0.46	3	138	232	218	299	3	2.24	2.59	3	6.66	12.29	3	0.59	1.01	0.93	1.29
BUIC																						
1	6	89	17	6	0.73	0.40	6	535	80	496	78	6	1.26	0.22	6	19.26	10.71	6	2.32	0.35	2.15	0.34
2	6	150	80	6	0.86	0.44	6	663	96	653	71	6	2.08	0.98	6	23.10	13.41	6	2.88	0.43	2.83	0.29
2-1	6	60	68	6	0.14	0.52	6	128	69	156	79	6	0.82	0.88	6	3.84	13.71	6	0.56	0.31	0.68	0.34
CADI																						
1	0	0	0	0	0.0	0.0	0	0	0	0	0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0.0	0.0
2	0	0	0	0	0.0	0.0	0	0	0	0	0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0.0	0.0
2-1	0	0	0	0	0.0	0.0	0	0	0	0	0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0.0	0.0
G.M.																						
1	24	110	50	24	0.94	0.60	24	702	226	662	210	24	1.34	0.54	24	21.41	13.20	24	2.64	0.70	2.49	0.65
2	24	216	134	24	1.27	1.03	24	774	223	777	231	24	2.64	1.57	24	28.73	21.76	24	2.96	0.86	2.98	0.91
2-1	24	106	118	24	0.34	1.01	24	71	260	114	258	24	1.30	1.48	24	7.32	23.41	24	0.32	0.97	0.49	0.97
VOLK																						
1	0	0	0	0	0.0	0.0	0	0	0	0	0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0.0	0.0
2	0	0	0	0	0.0	0.0	0	0	0	0	0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0.0	0.0
2-1	0	0	0	0	0.0	0.0	0	0	0	0	0	0	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0.0	0.0
ALL																						
1	48	145	60	48	1.23	0.71	48	868	393	817	354	48	1.77	0.67	48	28.51	16.60	48	3.27	1.32	3.08	1.20
2	48	226	106	48	1.36	0.87	48	1009	439	1002	423	48	2.77	1.25	48	31.46	19.55	48	3.83	1.57	3.80	1.51
2-1	48	81	96	48	0.14	0.97	48	141	234	184	238	48	1.00	1.21	48	2.95	22.69	48	0.56	0.87	0.72	0.88

TABLE C-4

DENVER CITY — 1971 VEHICLE COLD START STATISTICS

PHAS	N	COMP HC MEAN	COMP HC S.D.	N	COMP CO MEAN	COMP CO S.D.	N	COMP NO MEAN	COMP NO S.D.	NOC MEAN	NOC S.D.	N	MASS HC MEAN	MASS HC S.D.	N	MASS CO MEAN	MASS CO S.D.	N	MASS NOX MEAN	MASS NOX S.D.	NOXC MEAN	NOXC S.D.
AMER																							
1	20	285	129	20	3.70	2.25	20	910	495	821	445	20	3.12	1.27	20	74.14	39.41	20	3.16	1.81	2.85	1.63
2	20	290	97	20	2.74	2.14	20	899	405	882	418	20	3.20	1.05	20	54.63	39.09	20	3.12	1.47	3.07	1.57
2-1	20	5	79	20	-0.96	1.47	20	-10	371	61	343	20	0.09	0.89	20	-19.51	29.02	20	-0.05	1.24	0.22	1.15
CHRY																							
1	18	265	88	18	3.59	1.48	18	877	374	777	331	18	3.22	1.00	18	81.37	27.29	18	3.35	1.54	2.97	1.36
2	18	276	67	18	2.85	0.82	18	960	437	915	417	18	3.36	0.71	18	65.68	20.17	18	3.57	1.51	3.40	1.42
2-1	18	11	71	18	-0.75	1.19	18	82	292	138	285	18	0.14	0.85	18	-15.69	24.42	18	0.22	1.00	0.43	0.95
FORD																							
1	26	272	126	26	2.40	0.78	26	1373	450	1222	391	26	3.07	1.16	26	51.25	12.37	26	5.00	1.88	4.45	1.67
2	26	289	116	26	1.79	0.73	26	1410	487	1306	458	26	3.24	0.78	26	38.02	12.14	26	5.05	1.67	4.68	1.56
2-1	26	17	144	26	-0.61	0.66	26	37	385	84	351	26	0.17	1.47	26	-13.23	13.34	26	0.05	1.40	0.23	1.26
CHEV																							
1	34	204	62	34	3.49	1.30	34	653	222	579	195	34	2.37	0.55	34	76.46	25.38	34	2.41	0.92	2.14	0.82
2	34	351	591	34	2.20	1.01	34	724	178	700	184	34	4.27	8.06	34	47.82	18.05	34	2.67	0.77	2.57	0.77
2-1	34	147	585	34	-1.29	1.22	34	70	265	120	238	34	1.90	7.95	34	-28.64	28.24	34	0.26	1.02	0.44	0.91
PONT																							
1	5	140	15	5	1.87	0.58	5	724	107	637	94	5	1.82	0.17	5	45.92	15.29	5	2.91	0.52	2.56	0.46
2	5	175	51	5	1.18	0.64	5	748	85	695	47	5	2.27	0.63	5	29.08	16.71	5	2.99	0.36	2.79	0.23
2-1	5	35	56	5	-0.69	0.18	5	24	99	58	74	5	0.45	0.72	5	-16.84	4.32	5	0.08	0.41	0.22	0.30
OLDS																							
1	6	157	75	6	2.56	0.60	6	732	177	645	161	6	2.13	0.91	6	66.43	16.92	6	3.09	0.74	2.72	0.68
2	6	139	54	6	1.65	0.31	6	1013	215	958	185	6	1.89	0.66	6	32.31	7.90	6	4.28	0.81	4.05	0.67
2-1	6	-18	48	6	-1.31	0.59	6	280	154	312	155	6	-0.25	0.62	6	-34.13	16.18	6	1.19	0.57	1.32	0.57
BUIC																							
1	9	160	79	9	2.48	1.27	9	610	255	536	215	9	2.08	0.99	9	60.51	29.64	9	2.46	1.04	2.16	0.88
2	9	173	72	9	1.71	0.60	9	553	188	505	166	9	2.24	0.84	9	42.01	14.47	9	2.22	0.75	2.03	0.66
2-1	9	12	89	9	-0.77	0.65	9	-56	151	-31	128	9	0.16	1.14	9	-18.49	20.08	9	-0.24	0.62	-0.14	0.53
CADI																							
1	3	45	12	3	1.67	0.41	3	576	184	508	163	3	0.67	0.18	3	46.92	11.61	3	2.65	0.86	2.34	0.76
2	3	70	30	3	1.51	0.23	3	552	63	527	44	3	1.05	0.46	3	42.51	6.49	3	2.55	0.29	2.43	0.20
2-1	3	25	18	3	-0.16	0.51	3	-23	162	19	156	3	0.38	0.28	3	-4.40	14.23	3	-0.11	0.76	0.09	0.73
G.M.																							
1	57	178	72	57	2.94	1.30	57	657	212	580	185	57	2.16	0.74	57	68.65	25.92	57	2.54	0.90	2.25	0.79
2	57	270	466	57	1.90	0.92	57	721	209	687	204	57	3.36	6.31	57	43.35	17.10	57	2.79	0.90	2.65	0.86
2-1	57	92	456	57	-1.10	1.06	57	63	237	106	218	57	1.19	6.19	57	-25.30	24.74	57	0.24	0.93	0.40	0.86
VOLK																							
1	23	317	96	23	3.07	0.94	23	1116	292	1026	240	23	2.43	0.64	23	44.33	13.11	23	2.69	0.77	2.48	0.77
2	23	314	96	23	2.35	1.03	23	1219	350	1153	342	23	2.40	0.65	23	33.71	13.66	23	2.94	1.01	2.78	0.97
2-1	23	-2	71	23	-0.72	0.84	23	103	356	127	360	23	-0.03	0.55	23	-10.61	12.00	23	0.25	0.84	0.30	0.86
ALL																							
1	144	243	111	144	3.07	1.42	144	922	427	825	384	144	2.63	1.03	144	63.98	27.64	144	3.20	1.60	2.86	1.42
2	144	284	301	144	2.19	1.20	144	979	439	929	415	144	3.16	4.01	144	45.20	22.75	144	3.36	1.49	3.19	1.41
2-1	144	41	298	144	-0.88	1.06	144	57	311	103	293	144	0.53	3.93	144	-18.77	27.59	144	0.17	1.06	0.33	0.98

TABLE C-5

ALL FOUR CITIES — 1971 VEHICLE COLD START STATISTICS

		----COMP HC----			-----COMP CO-----			----COMP NO---------NOC-----				----MASS HC----			-----MASS CO-----			---MASS NOX---------NOXC---			
PHAS	N	MEAN	S.D.	N	MEAN	S.D.	N	MEAN	S.D.	MEAN	S.D.	N	MEAN	S.D.	N	MEAN	S.D.	N	MEAN	S.D.	MEAN	S.D.
AMER																						
1	37	219	125	37	2.57	2.13	37	902	406	851	391	37	2.37	1.31	37	51.21	39.60	37	3.06	1.48	2.88	1.39
2	37	243	94	37	2.14	1.74	37	1028	422	1044	471	37	2.64	1.05	37	42.46	32.49	37	3.47	1.53	3.52	1.70
2-1	37	23	75	37	-0.43	1.36	37	125	345	192	365	37	0.26	0.81	37	-8.75	26.90	37	0.41	1.35	0.65	1.27
CHRY																						
1	60	178	99	60	2.15	1.37	60	934	364	871	341	60	2.25	1.24	60	50.45	28.73	60	3.68	1.42	3.43	1.34
2	60	202	85	60	2.06	1.08	60	1056	465	1026	461	60	2.55	0.99	60	49.35	26.14	60	4.12	1.71	4.00	1.68
2-1	60	23	81	60	-0.08	1.28	60	121	329	154	316	60	0.30	1.09	60	-1.10	30.17	60	0.44	1.28	0.57	1.22
FORD																						
1	85	185	102	85	1.43	0.95	85	1181	424	1100	399	85	2.10	1.04	85	30.45	19.07	85	4.21	1.54	3.92	1.41
2	85	234	134	85	1.53	1.06	85	1256	513	1230	511	85	2.59	1.14	85	31.47	16.57	85	4.46	1.67	4.36	1.67
2-1	85	48	120	85	0.09	1.00	85	74	353	129	336	85	0.49	1.13	85	1.02	18.35	85	0.25	1.18	0.44	1.16
CHEV																						
1	82	149	71	82	1.99	1.57	82	743	220	695	209	82	1.74	0.76	82	43.45	33.27	82	2.72	0.88	2.55	0.83
2	82	264	402	82	1.58	1.10	81	850	251	843	257	82	3.14	5.41	82	33.85	21.11	81	3.13	1.02	3.11	1.03
2-1	82	114	386	82	-0.41	1.27	81	108	265	150	250	82	1.40	5.22	82	-9.61	27.33	81	0.41	0.99	0.56	0.92
PONT																						
1	13	112	35	13	1.40	0.82	13	706	152	638	139	13	1.48	0.44	13	34.73	20.07	13	2.89	0.66	2.62	0.61
2	13	148	52	13	1.20	1.11	13	689	169	673	152	13	1.96	0.65	13	29.91	27.13	13	2.81	0.69	2.75	0.64
2-1	13	36	56	13	-0.20	1.18	13	-17	125	35	131	13	0.48	0.72	13	-4.82	28.56	13	-0.08	0.51	0.14	0.53
OLDS																						
1	18	89	65	18	1.12	1.10	18	643	122	652	101	18	1.22	0.85	18	29.15	28.87	18	2.94	0.51	2.77	0.43
2	18	125	86	18	0.73	0.51	18	930	309	940	275	18	1.72	1.22	18	18.81	13.04	18	3.93	1.20	3.98	1.10
2-1	18	35	93	18	-0.39	0.78	18	236	272	287	267	18	0.50	1.52	18	-10.35	20.38	18	0.99	1.11	1.21	1.11
BUIC																						
1	25	104	64	25	1.28	1.20	25	535	166	546	146	25	1.39	0.81	25	31.92	28.57	25	2.48	0.69	2.26	0.62
2	25	143	76	25	1.18	0.67	25	608	149	593	139	25	1.92	0.97	25	29.82	16.54	25	2.54	0.64	2.48	0.62
2-1	25	39	81	25	-0.10	0.83	25	13	133	47	121	25	0.53	1.05	25	-2.10	20.68	25	0.06	0.57	0.20	0.52
CADI																						
1	6	41	10	6	1.06	0.73	6	547	126	498	107	6	0.61	0.15	6	29.77	20.38	6	2.52	0.59	2.29	0.50
2	6	61	22	6	1.00	0.58	6	631	111	624	115	6	0.91	0.34	6	28.14	16.40	6	2.91	0.51	2.87	0.53
2-1	6	19	13	6	-0.06	0.37	6	83	168	125	158	6	0.30	0.21	6	-1.64	10.37	6	0.38	0.78	0.58	0.73
G.M.																						
1	144	126	71	144	1.67	1.41	144	700	201	651	189	144	1.54	0.78	144	38.31	30.80	144	2.72	0.79	2.52	0.73
2	144	207	314	144	1.35	1.00	143	794	257	787	256	144	2.55	4.18	144	30.67	20.34	143	3.09	1.02	3.07	1.01
2-1	144	80	297	144	-0.32	1.11	143	95	242	138	232	144	1.01	4.01	144	-7.63	25.05	143	0.37	0.94	0.54	0.90
VOLK																						
1	43	269	95	43	2.49	1.10	43	1168	260	1102	273	43	2.05	0.69	43	35.52	15.47	43	2.79	0.80	2.63	0.81
2	43	293	96	43	2.32	1.05	43	1160	362	1148	369	43	2.22	0.67	43	32.89	13.80	43	2.77	1.01	2.74	1.01
2-1	43	23	81	43	-0.16	0.97	43	-7	327	45	324	43	0.17	0.61	43	-2.63	13.76	43	-0.01	0.77	0.11	0.77
ALL																						
1	369	174	103	369	1.82	1.43	369	924	379	863	360	369	1.93	1.03	369	39.44	28.62	369	3.26	1.33	3.04	1.24
2	369	226	215	369	1.70	1.18	368	1010	434	936	435	369	2.53	2.72	369	35.33	22.53	368	3.58	1.50	3.53	1.50
2-1	369	51	202	369	-0.18	1.14	366	85	313	133	299	369	0.60	2.64	369	-4.11	23.95	368	0.31	1.09	0.48	1.05

TABLE C-6

DET. HOUS. AND L.A. 1971 VEHICLE COLD START STATISTICS

PHAS	COMP HC N	COMP HC MEAN	COMP HC S.D.	COMP CO N	COMP CO MEAN	COMP CO S.D.	COMP NO N	COMP NO MEAN	COMP NO S.D.	NOC MEAN	NOC S.D.	MASS HC N	MASS HC MEAN	MASS HC S.D.	MASS CO N	MASS CO MEAN	MASS CO S.D.	MASS NOX N	MASS NOX MEAN	MASS NOX S.D.	NOXC MEAN	NOXC S.D.
AMER																						
1	17	142	62	17	1.24	0.86	17	894	283	888	326	17	1.50	0.66	17	24.23	15.91	17	2.93	1.02	2.90	1.11
2	17	187	50	17	1.44	0.67	17	1180	401	1234	470	17	1.97	0.56	17	28.14	12.53	17	3.88	1.54	4.05	1.74
2-1	17	44	66	17	0.21	0.91	17	286	370	346	338	17	0.47	0.68	17	3.90	17.71	17	0.95	1.31	1.15	1.24
CHRY																						
1	42	141	78	42	1.53	0.69	42	959	362	911	342	42	1.83	1.09	42	37.20	16.73	42	3.82	1.37	3.63	1.29
2	42	170	71	42	1.73	1.00	42	1097	476	1073	475	42	2.20	0.89	42	42.35	25.44	42	4.36	1.75	4.26	1.74
2-1	42	29	86	42	0.20	1.21	42	137	346	161	332	42	0.37	1.17	42	5.15	30.48	42	0.54	1.38	0.63	1.32
FORD																						
1	59	147	58	59	1.01	0.67	59	1046	386	1046	394	59	1.67	0.63	59	21.28	13.47	59	3.86	1.22	3.68	1.22
2	59	210	136	59	1.41	1.16	59	1188	514	1196	533	59	2.30	1.16	59	28.59	17.51	59	4.19	1.62	4.22	1.71
2-1	59	62	106	59	0.40	0.97	59	91	341	149	331	59	0.63	0.93	59	7.30	16.73	59	0.33	1.08	0.54	1.09
CHEV																						
1	48	111	48	48	0.93	0.56	48	807	197	778	179	48	1.29	0.53	48	20.08	10.45	48	2.95	0.79	2.84	0.71
2	48	202	155	48	1.14	0.96	47	941	258	947	254	48	2.34	1.80	48	23.95	17.27	47	3.47	1.05	3.50	1.02
2-1	48	91	128	48	0.21	0.89	47	134	265	172	259	48	1.04	1.49	48	3.87	16.73	47	0.51	0.97	0.65	0.93
PONT																						
1	8	96	32	8	1.10	0.84	8	695	181	639	167	8	1.26	0.41	8	27.73	20.28	8	2.88	0.76	2.65	0.72
2	8	131	49	8	1.22	1.36	8	652	203	666	195	8	1.76	0.62	8	30.42	33.19	8	2.70	0.84	2.73	0.82
2-1	8	37	60	8	0.11	1.45	8	-43	139	26	160	8	0.49	0.77	8	2.69	34.93	8	-0.18	0.57	0.08	0.65
OLDS																						
1	12	55	16	12	0.40	0.17	12	674	87	656	62	12	0.76	0.21	12	10.51	4.57	12	2.87	0.37	2.79	0.26
2	12	118	103	12	0.47	0.36	12	889	348	931	318	12	1.64	1.44	12	12.06	9.23	12	3.75	1.36	3.94	1.28
2-1	12	62	100	12	0.06	0.30	12	215	320	275	314	12	0.88	1.44	12	1.54	7.78	12	0.89	1.31	1.15	1.32
BUIC																						
1	16	72	20	16	0.61	0.33	16	586	96	552	97	16	1.00	0.29	16	15.84	8.42	16	2.49	0.42	2.35	0.43
2	16	127	76	16	0.88	0.50	16	639	118	643	94	16	1.73	0.93	16	22.96	13.66	16	2.72	0.51	2.74	0.48
2-1	16	54	74	16	0.27	0.56	16	53	107	91	95	16	0.74	0.97	16	7.12	14.74	16	0.23	0.47	0.39	0.42
CADI																						
1	3	38	8	3	0.45	0.17	3	519	59	468	43	3	0.56	0.12	3	12.63	4.64	3	2.39	0.28	2.25	0.20
2	3	52	10	3	0.64	0.12	3	709	91	720	56	3	0.77	0.16	3	15.76	3.24	3	3.27	0.42	3.32	0.26
2-1	3	14	3	3	0.04	0.24	3	190	101	232	62	3	0.21	0.06	3	1.13	6.51	3	0.97	0.47	1.07	0.29
G.M.																						
1	87	92	45	87	0.80	0.54	87	728	189	697	178	87	1.14	0.44	87	18.43	11.38	87	2.83	0.59	2.70	0.63
2	87	165	132	87	0.98	0.88	86	842	274	854	266	87	2.02	1.55	87	22.37	17.92	86	3.29	1.04	3.34	1.02
2-1	87	72	109	87	0.19	0.92	86	116	245	159	240	87	0.89	1.52	87	3.95	17.38	86	0.46	0.94	0.63	0.92
VOLK																						
1	20	214	59	20	1.82	0.97	20	1227	273	1190	289	20	1.62	0.46	20	25.34	11.33	20	2.89	0.84	2.80	0.83
2	20	268	92	20	2.29	1.09	20	1093	372	1141	406	20	2.01	0.64	20	31.94	14.25	20	2.58	1.01	2.69	1.08
2-1	20	54	82	20	0.47	0.68	20	-133	241	-48	254	20	0.39	0.62	20	6.55	9.27	20	-0.32	0.56	-0.11	0.62
ALL																						
1	225	130	68	225	1.11	0.74	225	924	346	887	342	225	1.48	0.74	225	23.74	14.96	225	3.30	1.14	3.16	1.10
2	225	189	120	225	1.38	1.06	224	1029	430	1040	443	225	2.12	1.22	225	29.02	20.02	224	3.71	1.50	3.74	1.52
2-1	225	58	100	225	0.27	0.44	224	104	313	152	302	225	0.65	1.12	225	5.28	19.75	224	0.41	1.10	0.58	1.08

TABLE C-7
AVERAGE MILEAGES FOR 1971 VEHICLES PHASE I

	Houston		L.A.		Detroit		Denver		All Cities		All Cities (Excluding Denver	
	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
American	9	12	8	29	0	0	20	19	37	19	17	20
Chrysler	10	19	23	29	9	13	18	17	60	21	42	23
Ford	14	25	30	40	15	19	26	26	85	29	59	31
Chevrolet	13	7	22	36	13	17	34	18	82	21	48	23
Pontiac	0	0	6	35	2	12	5	26	13	28	8	29
Oldsmobile	5	9	4	31	3	25	6	14	18	18	12	20
Buick	4	4	6	34	6	21	9	22	25	22	16	22
Cadillac	1	9	2	35	0	0	3	19	6	22	3	26
General Motors	23	7	40	35	24	18	57	19	144	21	87	23
Volkswagen	9	11	11	36	0	0	23	23	43	24	20	25
TOTAL	65	14	112	35	48	17	144	21	369	23	225	25

TABLE C-8
AVERAGE MILEAGES FOR 1971 VEHICLES PHASE II

	Houston		L.A.		Detroit		Denver		All Cities		All Cities (Excluding Denver)	
	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean	N	Mean
American Motors	9	5650	8	5417	0	0	20	5506	37	5522	17	5540
Chrysler	10	5306	23	5389	9	5962	18	4957	60	5331	42	5492
Ford	14	4988	30	5597	15	5248	26	5091	85	5280	59	5364
Chevrolet	13	5059	22	5186	13	5344	34	5176	82	5187	48	5194
Pontiac	0	0	6	5475	2	6252	5	4511	13	5224	8	5669
Oldsmobile	5	5319	4	5391	3	6602	6	4433	18	5254	12	5664
Buick	4	5964	6	5182	6	5422	9	5608	25	5518	16	5468
Cadillac	1	4126	2	4790	0	0	3	4414	6	4491	3	4569
General Motors	23	5232	40	5229	24	5596	57	5068	144	5227	87	5331
Volkswagen	9	5470	11	5124	0	0	23	5424	43	5357	20	5280
TOTAL	65	5282	112	5364	48	5556	144	5176	369	5301	225	5381

APPENDIX D

VARIANCE ANALYSIS DATA

1. Method and Summary

2. Data:

D-1 Phase I (Green Engine)

D-1.1 Between Makes In The Same City

D-1.2 Between Manufacturers In The Same City

D-1.3 Between All Cities For The Same Make

D-1.4 Between All Cities (Excluding Denver) For The Same Make

D-2 Phase II (Stabilized Engine)

D-2.1 Between Makes In The Same City

D-2.2 Between Manufacturers In The Same City

D-2.3 Between All Cities For The Same Make

D-2.4 Between All Cities (Excluding Denver) For The Same Make

D-3 Phase II - Phase I (Differences)

D-3.1 Between Makes In The Same City

D-3.2 Between Manufacturers In The Same City

D-3.3. Between All Cities For The Same Make

D-3.4 Between All Cities (Excluding Denver) For The Same Make

D-4 Car To Car Variability

D-4.1 Phase I (Green Engine)

D-4.2 Phase II (Stabilized Engine)

Method and Summary

The one-way variance analyses with unequal numbers in the subgroups were computed from the number of data values, means and standard deviations for the city-make-emission variable combinations presented in Appendix C. The means and standard deviations had been rounded to the nearest 0.01 grams/mile. This causes some uncertainty in the sums of squares and mean squares -- they are probably correct to about three significant figures.

The F values, grand average, standard deviation about the grand average (labeled Total SD), and the Within Group Standard Deviation are correct to the accuracy shown.

The Within SD value is the best estimate of the car-to-car variation for the particular group involved. These values have been collected in Section D-4 and used to obtain pooled values for all results on the Green Engine and on the Stabilized Engine.

The results of many of these variance analyses must be used with caution in view of the small number of vehicles in the subclasses. The discriminatory power of the analysis of variance method becomes very poor when there are only 1 to 3 vehicles in a subclass. The absence of data for one make in Houston and three makes in Detroit must be kept in mind.

A copy of the fleet composition and summary tables showing the statistical significance of the individual analyses of variance are included.

TEST FLEET COMPOSITION
(Summary)

	Hous	L.A.	Det	Denv	All	Excluding Denver
American Motors	9	8	-	20	37	17
Chrysler	10	23	9	18	60	42
Ford	14	30	15	26	85	59
Chevrolet	13	22	13	34	82	48
Pontiac	0	6	2	5	13	8
Oldsmobile	5	4	3	6	18	12
Buick	4	6	6	9	25	16
Cadillac	1	2	0	3	6	3
General Motors	23	40	24	57	144	87
Volkswagen	9	11	-	23	43	20
All Vehicles	65	112	48	144	369	225

Phase 1, Green Engine. Mass data.

		HC	CO	NO_x	NO_x C
	Between makes in same city				
1.11	Houston	* *	*	* *	* *
1.12	Los Angeles	*	* *	*	*
1.13	Detroit	* *	* *	*	* *
1.14	Denver	* *	* *	* *	* *
1.15	H, LA, Det	* *	* *	* *	* *
1.16	4-Cities	* *	* *	* *	* *
	Between mfgr. in same city				
1.21	Houston	* *	* *	* *	* *
1.22	Los Angeles	* *	* *	* *	* *
1.23	Detroit	* *	* *	* *	* *
1.24	Denver	* *	* *	* *	* *
1.25	H, LA, Det	* *	* *	* *	* *
1.26	4-Cities	* *	* *	* *	* *

Statistical Significance

— Not significant

* Between 1 and 5%

** Beyond 1%

		HC	CO	NO_x	NO_x C
	Between cities (all 4) for same make				
1.301	AMC	* *	* *	—	—
1.302	Chrys	* *	* *	—	—
1.303	Ford	* *	* *	* *	*
1.304	Chev	* *	* *	* *	* *
1.305	Pont	*	—	*	*
1.306	olds	* *	* *	—	—
1.307	Buick	* *	* *	—	—
1.308	Cad	—	*	—	—
1.309	Gmc	* *	* *	* *	* *
1.310	VW	* *	* *	—	—
1.311	All	* *	* *	—	* *
	Between cities (excl. Denver) for same make				
1.401	AMC	* *	* *	—	—
1.402	Chrys	—	—	—	—
1.403	Ford	* *	* *	—	—
1.404	Chev	—	—	—	—
1.405	Pont	—	—	*	*
1.406	olds	—	—	*	—
1.407	Buick	* *	—	—	—
1.408	Cad	—	—	—	—
1.409	Gmc	*	—	* *	*
1.410	VW	—	—	—	—
1.411	All	* *	* *	—	—

Phase 2, Stabilized Engine. Mass data.

		HC	CO	NO_x	NO_x C
	Between makes in same city				
2.11	Houston	**	*	**	*
2.12	Los Angeles	—	**	*	*
2.13	Detroit	—	—	**	**
2.14	Denver	—	**	**	**
2.15	H, LA, Det	—	**	**	**
2.16	4-Cities	—	**	**	**
	Between mfgr. in same city				
2.21	Houston	**	**	**	**
2.22	Los Angeles	—	**	**	**
2.23	Detroit	—	—	**	**
2.24	Denver	—	**	**	**
2.25	H, LA, Det	—	**	**	**
2.26	4-Cities	—	**	**	**

Statistical Significance

— Not significant

* Between 1 and 5%

** Beyond 1%

		HC	CO	NO_x	NO_x C
	Between cities (all 4) for same make				
2.301	AMC	**	*	—	**
2.302	Chrys	**	**	—	*
2.303	Ford	**	**	*	*
2.304	Chev	—	**	**	**
2.305	Pont	—	—	—	—
2.306	olds	—	**	—	—
2.307	Buick	—	*	—	*
2.308	Cad	—	*	—	—
2.309	GMC	—	**	**	**
2.310	VW	—	—	—	—
2.311	All	**	**	*	**
	Between cities (excl. Denver) for same make				
2.401	AMC	**	—	—	**
2.402	Chrys	**	—	—	*
2.403	Ford	**	**	*	*
2.404	Chev	—	—	—	—
2.405	Pont	—	—	—	—
2.406	olds	—	—	—	—
2.407	Buick	—	—	—	—
2.408	Cad	—	—	—	—
2.409	GMC	—	*	—	—
2.410	VW	—	—	—	—
2.411	All	**	—	—	**

Stabilized – Green Engine Differences. Mass Data.

		HC	CO	NO_x	NO_x C
	Between makes in same city				
3.11	Houston	—	—	—	—
3.12	Los Angeles	—	—	—	—
3.13	Detroit	—	—	—	—
3.14	Denver	—	*	—	—
3.15	H, LA, Det	—	—	*	*
3.16	4-Cities	—	—	*	*
	Between mfgr. in same city				
3.21	Houston	—	—	—	—
3.22	Los Angeles	—	—	—	—
3.23	Detroit	—	—	—	—
3.24	Denver	—	*	—	—
3.25	H, LA, Det	—	**	**	**
3.26	4-Cities	—	*	—	—

Statistical Significance

— Not significant

* Between 1 and 5%

** Beyond 1%

		HC	CO	NO_x	NO_x C
	Between cities (all 4) for same make				
3.301	AMC	—	**	*	*
3.302	Chrys	—	—	—	—
3.303	Ford	**	**	—	—
3.304	Chev	—	**	—	—
3.305	Pont	—	—	—	—
3.306	olds	—	**	—	—
3.307	Buick	—	*	*	*
3.308	Cad	—	—	—	—
3.309	GMC	—	**	—	—
3.310	VW	*	**	*	—
3.311	All	—	**	*	**
	Between cities (excl. Denver) for same make				
3.401	AMC	—	*	—	—
3.402	Chrys	—	—	—	—
3.403	Ford	**	—	—	—
3.404	Chev	—	—	—	—
3.405	Pont	—	—	—	—
3.406	olds	—	—	—	—
3.407	Buick	—	—	—	—
3.408	Cad	—	—	—	—
3.409	GMC	—	—	—	—
3.410	VW	—	—	—	—
3.411	All	**	—	—	**

SECTION D-1

Phase I (Green Engine)

SECTION D-1.1

Between Makes In The Same City

Emission Levels - Green Engine, Phase 1

Between Makes for the same city - Houston

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	9.53	7	1.36	F	7.75 **	Grand mean: 1.58
Within	10.01	57	0.18	Within SD	0.42	
Total	19.54	64	0.31	Total SD	0.55	

F 5% 2.16 1% 2.94

Mass CO, g/mile

Between	3381.73	7	483.10	F	3.13 *	Grand mean: 27.11
Within	8806.14	57	154.49	Within SD	12.43	
Total	12187.87	64	190.44	Total SD	13.80	

F 5% 2.16 1% 2.94

Mass NO_x, g/mile

Between	35.87	7	5.12	F	3.64 **	Grand mean: 3.33
Within	80.29	57	1.41	Within SD	1.19	
Total	116.16	64	1.81	Total SD	1.35	

F 5% 2.1 1% 2.9

Mass NO_x corrected, g/mile

Between	32.92	7	4.70	F	3.22 **	Grand mean: 3.35
Within	83.28	57	1.46	Within SD	1.21	
Total	116.20	64	1.82	Total SD	1.35	

F 5% 2.1 1% 2.9

Emission Levels 1985 - Green Engine, Phase 1

Between Makes for the same city - Los Angeles

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	11.64	8	1.45	F	2.49 *	Grand mean: 1.29
Within	60.06	103	0.58	Within SD	0.76	
Total	71.70	111	0.65	Total SD	0.80	

Mass CO, g/mile

Between	8094.30	8	1011.79	F	7.88 **	Grand mean: 19.73
Within	13233.50	103	128.48	Within SD	11.33	
Total	21327.80	111	192.14	Total SD	13.86	

Mass NO_x, g/mile

Between	16.80	8	2.10	F	2.95 *	Grand mean: 3.29
Within	73.31	103	0.71	Within SD	0.84	
Total	90.11	111	0.81	Total SD	0.90	

Mass NO_x corrected, g/mile

Between	15.35	8	1.92	F	2.99 *	Grand mean: 3.07
Within	66.09	103	0.64	Within SD	0.80	
Total	81.44	111	0.73	Total SD	0.86	

F 5% 2.0

Emission Levels - Green Engine, Phase 1

Between Makes for the same city - Detroit

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	11.06	5	2.21	F	9.44 **	Grand mean:
Within	9.83	42	0.23	Within SD	0.48	
Total	20.89	47	0.44	Total SD	0.67	1.77

Mass CO, g/mile

Between	4661.67	5	932.33	F	4.72 **	Grand mean:
Within	8295.74	42	197.52	Within SD	14.05	
Total	12957.41	47	275.69	Total SD	16.60	28.51

Mass NO_x, g/mile

Between	23.52	5	4.70	F	3.38 *	Grand mean:
Within	58.48	42	1.39	Within SD	1.18	
Total	82.00	47	1.74	Total SD	1.32	3.27

Mass NO_x corrected, g/mile

Between	21.09	5	4.22	F	3.78 **	Grand mean:
Within	46.81	42	1.11	Within SD	1.06	
Total	67.90	47	1.44	Total SD	1.20	3.08

F 5% 2.44 1% 3.49

Emission Levels 187< – Green Engine, Phase 1

Between Makes for the same city – Denver

Mass HC, g/mile

Makes	Sum of Squares	Df	Mean Square	Non-scaled units		
Between	38.35	8	4.79	F	5.75 **	Grand
Within	112.44	135	0.83	Within SD	0.91	mean:
Total	150.79	143	1.05	Total SD	1.03	2.63

Mass CO, g/mile

Between	28545.97	8	3568.25	F	5.97 **	Grand
Within	80698.23	135	597.76	Within SD	24.45	mean:
Total	109244.19	143	763.95	Total SD	27.64	63.98

Mass NO_x, g/mile

Between	118.21	8	14.78	F	8.11 **	Grand
Within	245.85	135	1.82	Within SD	1.35	mean:
Total	364.06	143	2.55	Total SD	1.60	3.20

Mass NO_x corrected, g/mile

Between	92.69	8	11.59	F	7.92 **	Grand
Within	197.39	135	1.46	Within SD	1.21	mean:
Total	290.07	143	2.03	Total SD	1.42	2.86

F 5% 2.01 1% 2.65

Emission Levels - Green Engine, Phase 1

Between Makes for three cities (excluding Denver)

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	22.24	8	2.78	F	6.07 **	Grand mean: 1.48
Within	98.88	216	0.46	Within SD	0.68	
Total	121.11	224	0.54	Total SD	0.74	

Mass CO, g/mile

Between	12264.38	8	1533.05	F	8.75 **	Grand mean: 23.74
Within	37835.95	216	175.17	Within SD	13.24	
Total	50100.33	224	223.66	Total SD	14.96	

Mass NO_x, g/mile

Between	58.04	8	7.25	F	6.78 **	Grand mean: 3.30
Within	231.02	216	1.07	Within SD	1.03	
Total	289.06	224	1.29	Total SD	1.14	

Mass NO_x corrected, g/mile

Between	50.59	8	6.32	F	6.25 **	Grand mean: 3.16
Within	218.40	216	1.01	Within SD	1.01	
Total	268.99	224	1.20	Total SD	1.10	

F 5% 1.97 1% 2.15

Emission Levels - Green Engine, Phase 1

Between Makes for the four cities

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	48.79	8	6.10	F	6.45**	Grand mean: 1.93
Within	340.60	360	0.95	Within SD	0.97	
Total	389.39	368	1.06	Total SD	1.03	

Mass CO, g/mile

Between	25417.08	8	3177.13	F	4.14**	Grand mean: 39.44
Within	276080.14	360	766.89	Within SD	27.69	
Total	301497.22	368	819.29	Total SD	28.62	

Mass NO_x, g/mile

Between	144.30	8	18.04	F	12.75**	Grand mean: 3.26
Within	509.46	360	1.42	Within SD	1.19	
Total	653.76	368	1.78	Total SD	1.33	

Mass NO_x corrected, g/mile

Between	124.23	8	15.53	F	12.59**	Grand mean: 3.04
Within	443.94	360	1.23	Within SD	1.11	
Total	568.17	368	1.54	Total SD	1.24	

F 5% 1.97 1% 2.56

SECTION D-1.2

Between Manufacturers In The Same City

Emission Levels - Green Engine, Phase 1

Between Mfgrs for the same city - Houston

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	7.79	4	1.95	F	9.90**	Grand mean: 1.58
Within	11.80	60	0.20	Within SD	0.44	
Total	19.60	64	0.31	Total SD	0.55	

Mass CO, g/mile

Between	2958.38	4	739.59	F	4.81**	Grand mean: 27.12
Within	9227.70	60	153.79	Within SD	12.40	
Total	12186.07	64	190.41	Total SD	13.80	

Mass NO_x, g/mile

Between	35.63	4	8.91	F	6.63**	Grand mean: 3.33
Within	80.58	60	1.34	Within SD	1.16	
Total	116.21	64	1.82	Total SD	1.35	

Mass NO_x corrected, g/mile

Between	32.53	4	8.13	F	5.84**	Grand mean: 3.35
Within	83.58	60	1.39	Within SD	1.18	
Total	116.11	64	1.81	Total SD	1.35	

F 5% 2.53 1% 3.65

Emission Levels - 1982 Green Engine, Phase 1

Between Mfgrs for the same city - Los Angeles

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	9.88	4	2.47	F	4.28 **	Grand mean: 1.29
Within	61.71	107	0.58	Within SD	0.76	
Total	71.59	111	0.64	Total SD	0.80	

Mass CO, g/mile

Between	7171.88	4	1792.97	F	13.54 **	Grand mean: 19.73
Within	14159.61	107	132.33	Within SD	11.50	
Total	21331.49	111	192.18	Total SD	13.86	

Mass NO_x, g/mile

Between	14.36	4	3.59	F	5.06 **	Grand mean: 3.29
Within	75.94	107	0.71	Within SD	0.84	
Total	90.30	111	0.81	Total SD	0.90	

Mass NO_x corrected, g/mile

Between	13.00	4	3.25	F	5.10 **	Grand mean: 3.07
Within	68.15	107	0.64	Within SD	0.80	
Total	81.15	111	0.73	Total SD	0.86	

F 52 2.48 1% 3.55

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Emission Levels - Green Engine, Phase I

Between Mfgrs for the same city - **Detroit**
No AMC, VW, CADI

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units	
Between	9.86	2	4.93	F 20.02 **	Grand mean: 1.77
Within	11.08	45	0.25	Within SD 0.50	
Total	20.94	47	0.45	Total SD 0.67	

Mass CO, g/mile

Between	3257.85	2	1628.93	F 7.56 **	Grand mean: 28.51
Within	9699.39	45	215.54	Within SD 14.68	
Total	12957.24	47	275.69	Total SD 16.60	

Mass NO_x, g/mile

Between	20.87	2	10.43	F 7.67 **	Grand mean: 3.27
Within	61.18	45	1.36	Within SD 1.17	
Total	82.05	47	1.75	Total SD 1.32	

Mass NO_x corrected, g/mile

Between	18.24	2	9.12	F 8.25 **	Grand mean: 3.08
Within	49.71	45	1.10	Within SD 1.05	
Total	67.95	47	1.45	Total SD 1.20	

5% 3.21 1% 5.16

Emission Levels - 1984 Green Engine, Phase 1

Between Mfgrs for the same city - Denver

Mass HC, g/mile

Makes	Sum of Squares	Df	Mean Square	Non-scaled units	
Between	29.61	4	7.40	F 8.51 **	Grand mean:
Within	120.96	139	0.87	Within SD 0.93	
Total	150.57	143	1.05	Total SD 1.03	2.63

Mass CO, g/mile

Between	21845.23	4	5461.31	F 8.69 **	Grand mean:
Within	87400.47	139	628.78	Within SD 25.08	
Total	109245.70	143	763.96	Total SD 27.64	63.98

Mass NO_x, g/mile

Between	115.49	4	28.87	F 16.10 **	Grand mean:
Within	249.33	139	1.79	Within SD 1.34	
Total	364.81	143	2.55	Total SD 1.60	3.20

Mass NO_x corrected, g/mile

Between	90.48	4	22.62	F 15.75 **	Grand mean:
Within	199.64	139	1.44	Within SD 1.20	
Total	290.12	143	2.03	Total SD 1.43	2.86

F 5% 2.43 1% 3.46

Emission Levels - Green Engine, Phase 1

Between Mfgr for three cities

(excluding Denver)

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	1773	4	4.43	F	9.43**	Grand mean: 1.48
Within	103.37	220	0.47	Within SD	0.69	
Total	121.10	224	0.54	Total SD	0.74	

Mass CO, g/mile

Between	10477.84	4	2619.46	F	14.54**	Grand mean: 23.74
Within	39625.62	220	180.12	Within SD	13.42	
Total	50103.46	224	223.68	Total SD	14.96	

Mass NO_x, g/mile

Between	54.77	4	13.69	F	12.86**	Grand mean: 3.30
Within	234.28	220	1.06	Within SD	1.03	
Total	289.04	224	1.29	Total SD	1.14	

Mass NO_x corrected, g/mile

Between	47.38	4	11.84	F	11.76**	Grand mean: 3.15
Within	221.49	220	1.01	Within SD	1.00	
Total	268.87	224	1.20	Total SD	1.10	

F 5% 2.41 1% 3.40

Emission Levels 1506 - Green Engine, Phase 1

Between Mfgrs for the same city - 4 CITIES

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units	
Between	38.28	4	9.57	F 9.94 **	Grand mean:
Within	350.35	364	0.96	Within SD 0.98	
Total	388.63	368	1.06	Total SD 1.03	1.93

Mass CO, g/mile

Between	20113.26	4	5028.31	F 6.50 **	Grand mean:
Within	281407.97	364	773.10	Within SD 27.80	
Total	301521.23	368	819.35	Total SD 28.62	39.44

Mass NO_x, g/mile

Between	140.26	4	35.07	F 24.87 **	Grand mean:
Within	513.16	364	1.41	Within SD 1.19	
Total	653.43	368	1.78	Total SD 1.33	3.26

Mass NO_x corrected, g/mile

Between	122.06	4	30.52	F 24.89 **	Grand mean:
Within	446.26	364	1.23	Within SD 1.11	
Total	568.32	368	1.54	Total SD 1.24	3.04

F 5% 2.39 1% 3.36

SECTION D-1.3

Between All Cities For The Same Make

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Emission Levels - Green Engine, Phase 1

Between Cities for the same make - AMC (Hous, LA, Denv)

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	27.05	2	13.53	F	13.26**	Grand mean: 2.38
Within	34.68	34	1.02	Within SD	1.01	
Total	61.73	36	1.71	Total SD	1.31	

Mass CO, g/mile

Between	24917.86	2	12458.93	F	13.44**	Grand mean: 51.21
Within	31527.37	34	927.28	Within SD	30.45	
Total	56445.22	36	1567.92	Total SD	39.60	

Mass NO_x, g/mile

Between	2.92	2	1.46	F	0.65	Grand mean: 3.06
Within	76.54	34	2.25	Within SD	1.50	
Total	79.46	36	2.21	Total SD	1.49	

Mass NO_x corrected, g/mile

Between	4.43	2	2.21	F	1.15	Grand mean: 2.87
Within	65.72	34	1.93	Within SD	1.39	
Total	70.15	36	1.95	Total SD	1.40	

F 5% 3.28 1% 5.29

399<

Emission Levels – Green Engine, Phase I

Between Cities for the same make – Chrys (4 cities)

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units	
Between	24.80	3	8.27	F 7.09 **	Grand mean: 2.25
Within	65.28	56	1.17	Within SD 1.08	
Total	90.08	59	1.53	Total SD 1.24	

Mass CO, g/mile

Between	25097.24	3	8365.75	F 19.84 **	Grand mean: 50.45
Within	23615.74	56	421.71	Within SD 20.54	
Total	48712.99	59	825.64	Total SD 28.73	

Mass NO_x, g/mile

Between	6.45	3	2.15	F 1.06	Grand mean: 3.68
Within	113.24	56	2.02	Within SD 1.42	
Total	119.69	59	2.03	Total SD 1.42	

Mass NO_x corrected, g/mile

Between	9.70	3	3.23	F 1.89	Grand mean: 3.43
Within	95.92	56	1.71	Within SD 1.31	
Total	105.61	59	1.79	Total SD 1.34	

F 5% 2.77 1% 4.15

1.302

200<

Emission Levels - Green Engine, Phase I

Between Cities for the same make - Ford

(4 cities)

Mass HC, g/mile

Cities	Sum of Squares	Df	Mean Square	Non-scaled units		
Between	48.47	3	16.16	F	30.23 **	Grand
Within	43.30	81	0.53	Within SD	0.73	mean:
Total	91.77	84	1.09	Total SD	1.05	2.10

Mass CO, g/mile

Between	19626.42	3	6542.14	F	48.47 **	Grand
Within	10933.87	81	134.99	Within SD	11.62	mean:
Total	30560.29	84	363.81	Total SD	19.07	30.45

Mass NO_x, g/mile

Between	27.92	3	9.31	F	4.43 **	Grand
Within	170.03	81	2.10	Within SD	1.45	mean:
Total	197.95	84	2.36	Total SD	1.54	4.21

Mass NO_x corrected, g/mile

Between	19.23	3	6.41	F	3.53 *	Grand
Within	147.15	81	1.82	Within SD	1.35	mean:
Total	166.38	84	1.98	Total SD	1.41	3.92

F 5% 2.72 1% 4.03

Emission Levels - Green Engine, Phase 1

Between Cities for the same make - Chevrolet

(4 cities)

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	24.12	3	8.04	F	28.37 **	Grand mean: 1.74
Within	22.11	78	0.28	Within SD	0.53	
Total	46.23	81	0.57	Total SD	0.76	

Mass CO, g/mile

Between	63490.16	3	21163.39	F	63.08 **	Grand mean: 43.46
Within	26167.48	78	335.48	Within SD	18.32	
Total	89657.65	81	1106.88	Total SD	33.27	

Mass NO_x, g/mile

Between	9.23	3	3.08	F	4.48 **	Grand mean: 2.72
Within	53.58	78	0.69	Within SD	0.83	
Total	62.81	81	0.78	Total SD	0.88	

Mass NO_x corrected, g/mile

Between	11.19	3	3.73	F	6.54 **	Grand mean: 2.55
Within	44.49	78	0.57	Within SD	0.76	
Total	55.69	81	0.69	Total SD	0.83	

F 5% 2.72 1% 4.05

Emission Levels 202 - Green Engine, Phase 1

Between Cities for the same make - Pontiac

(LA, Detroit, Denver)

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	1.26	2	0.63	F	6.29*	Grand mean: 1.48
Within	1.00	10	0.10	Within SD	0.32	
Total	2.26	12	0.19	Total SD	0.43	

Mass CO, g/mile

Between	1856.78	2	928.39	F	3.12	Grand mean: 34.73
Within	2973.33	10	297.33	Within SD	17.24	
Total	4830.12	12	402.51	Total SD	20.06	

Mass NO_x, g/mile

Between	2.62	2	1.31	F	5.14*	Grand mean: 2.89
Within	2.54	10	0.25	Within SD	0.50	
Total	5.16	12	0.43	Total SD	0.66	

Mass NO_x corrected, g/mile

Between	2.37	2	1.18	F	5.59*	Grand mean: 2.61
Within	2.12	10	0.21	Within SD	0.46	
Total	4.49	12	0.37	Total SD	0.61	

F 5% 4.10 1% 7.56

Emission Levels of Green Engine, Phase 1

Between Cities for the same make — Oldsmobile (4 cities)

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	7.56	3	2.52	F	7.71 **	Grand mean: 1.22
Within	4.58	14	0.33	Within SD	0.57	
Total	12.14	17	0.71	Total SD	0.85	

Mass CO, g/mile

Between	12618.26	3	4206.09	F	37.95 **	Grand mean: 29.15
Within	1551.45	14	110.82	Within SD	10.53	
Total	14169.71	17	833.51	Total SD	28.87	

Mass NO_x, g/mile

Between	1.17	3	0.39	F	1.66	Grand mean: 2.94
Within	3.28	14	0.23	Within SD	0.48	
Total	4.45	17	0.26	Total SD	0.51	

Mass NO_x corrected, g/mile

Between	0.38	3	0.13	F	0.63	Grand mean: 2.76
Within	2.79	14	0.20	Within SD	0.45	
Total	3.17	17	0.19	Total SD	0.43	

F 5% 3.34 1% 5.56

Emission Levels - Green Engine, Phase 1

Between Cities for the same make - Buick

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	7.50	3	2.50	F	6.28 **	Grand mean: 1.39
Within	8.36	21	0.40	Within SD	0.63	
Total	15.86	24	0.66	Total SD	0.81	

Mass CO, g/mile

Between	11781.10	3	3927.03	F	10.56 **	Grand mean: 31.92
Within	7806.07	21	371.72	Within SD	19.28	
Total	19587.17	24	816.13	Total SD	28.57	

Mass NO_x, g/mile

Between	0.30	3	0.10	F	0.19	Grand mean: 2.48
Within	11.03	21	0.53	Within SD	0.72	
Total	11.33	24	0.47	Total SD	0.69	

Mass NO_x corrected, g/mile

Between	0.60	3	0.20	F	0.49	Grand mean: 2.28
Within	8.58	21	0.41	Within SD	0.64	
Total	9.17	24	0.38	Total SD	0.62	

F 5% 3.05 1% 4.87

Emission Levels 2.5< Green Engine, Phase 1

Between Cities for the same make – Cadillac

(Hous, LA, Denver)

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	0.03	2	0.02	F	0.67	Grand mean: 0.62
Within	0.08	3	0.03	Within SD	0.16	
Total	0.11	5	0.02	Total SD	0.15	

6 cars

Mass CO, g/mile

Between	1797.98	2	898.99	F	9.69 *	Grand mean: 29.78
Within	278.46	3	92.82	Within SD	9.63	
Total	2076.44	5	415.29	Total SD	20.38	

Mass NO_x, g/mile

Between	0.25	2	0.12	F	0.25	Grand mean: 2.52
Within	1.49	3	0.50	Within SD	0.70	
Total	1.73	5	0.35	Total SD	0.59	

Mass NO_x corrected, g/mile

Between	0.09	2	0.05	F	0.12	Grand mean: 2.29
Within	1.16	3	0.39	Within SD	0.62	
Total	1.25	5	0.25	Total SD	0.50	

F 5% 9.55 1% 30.82

only 6 cars

Emission Levels - 2085 Green Engine, Phase 1

Between Cities for the same make — Gen Motors

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	37.79	3	12.60	F	35.74 **	Grand mean: 1.54
Within	49.33	140	0.35	Within SD	0.59	
Total	87.12	143	0.61	Total SD	0.78	

Mass CO, g/mile

Between	87400.32	3	29133.44	F	84.57 **	Grand mean: 38.30
Within	48230.36	140	344.50	Within SD	18.56	
Total	135630.69	143	948.47	Total SD	30.80	

Mass NO_x, g/mile

Between	8.06	3	2.69	F	4.64 **	Grand mean: 2.71
Within	81.02	140	0.58	Within SD	0.76	
Total	89.08	143	0.62	Total SD	0.79	

Mass NO_x corrected, g/mile

Between	9.80	3	3.27	F	6.86 **	Grand mean: 2.52
Within	66.64	140	0.48	Within SD	0.69	
Total	76.44	143	0.53	Total SD	0.73	

F 5% 2.67 1% 3.92

Emission Levels - Green Engine, Phase 1

Between Cities for the same make - VW

(Hous, LA, Denver)

Mass HC, g/mile

Cities	Sum of Squares	Df	Mean Square	Non-scaled units		
Between	7.16	2	3.58	F	11.04 **	Grand mean: 2.05
Within	12.97	40	0.32	Within SD	0.57	
Total	20.13	42	0.48	Total SD	0.69	

Mass CO, g/mile

Between	3877.11	2	1938.56	F	12.55 **	Grand mean: 35.52
Within	6179.82	40	154.50	Within SD	12.43	
Total	10056.93	42	239.46	Total SD	15.47	

Mass NO_x, g/mile

Between	0.45	2	0.22	F	0.34	Grand mean: 2.79
Within	26.19	40	0.65	Within SD	0.81	
Total	26.64	42	0.63	Total SD	0.80	

Mass NO_x corrected, g/mile

Between	1.48	2	0.74	F	1.15	Grand mean: 2.63
Within	25.65	40	0.64	Within SD	0.80	
Total	27.13	42	0.65	Total SD	0.80	

F 5% 3.23 1% 5.18

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Emission Levels - Green Engine, Phase 1

Between Cities for the same make - All vehicles (4 cities)

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units	
Between	125.62	3	41.87	F 58.06 **	Grand mean:
Within	263.21	365	0.72	Within SD 0.85	
Total	388.83	368	1.06	Total SD 1.03	1.93

Mass CO, g/mile

Between	145828.86	3	48609.62	F 113.95 **	Grand mean:
Within	155710.19	365	426.60	Within SD 20.65	
Total	301539.05	368	819.40	Total SD 28.63	39.44

Mass NO_x, g/mile

Between	0.94	3	0.31	F 0.18	Grand mean:
Within	654.52	365	1.79	Within SD 1.34	
Total	655.47	368	1.78	Total SD 1.33	3.26

Mass NO_x corrected, g/mile

Between	11.09	3	3.70	F 2.43 **	Grand mean:
Within	554.76	365	1.52	Within SD 1.23	
Total	565.85	368	1.54	Total SD 1.24	3.04

F 5% 2.63 1% 3.84

SECTION D-1.4

Between All Cities (Excluding Denver)
For The Same Make

Emission Levels – Green Engine, Phase I

Between Cities (excluding Denver) for same make
Houston, LA – AMC

Mass HC, g/mile

Cities	Sum of Squares	Df	Mean Square	Non-scaled units		
Between	2.92	1	2.92	F	10.85**	Grand
Within	4.03	15	0.27	Within SD	0.52	mean:
Total	6.95	16	0.43	Total SD	0.66	1.50

Mass CO, g/mile

Between	2031.29	1	2031.29	F	15.10**	Grand
Within	2017.55	15	134.50	Within SD	11.60	mean:
Total	4048.84	16	253.05	Total SD	15.91	24.23

Mass NO_x, g/mile

Between	2.45	1	2.45	F	2.57	Grand
Within	14.29	15	0.95	Within SD	0.98	mean:
Total	16.74	16	1.05	Total SD	1.02	2.93

Mass NO_x corrected, g/mile

Between	4.41	1	4.41	F	4.34	Grand
Within	15.24	15	1.02	Within SD	1.01	mean:
Total	19.65	16	1.23	Total SD	1.11	2.90

F 5% 4.54 1% 8.68

Emission Levels - Green Engine, Phase 1

Between Cities (excluding Denver) for same make - Chrysler

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	0.40	2	0.20	F	0.16	Grand mean: 1.83
Within	48.28	39	1.24	Within SD	1.11	
Total	48.69	41	1.19	Total SD	1.09	

Mass CO, g/mile

Between	517.17	2	258.58	F	0.92	Grand mean: 37.20
Within	10946.64	39	280.68	Within SD	16.75	
Total	11463.81	41	279.61	Total SD	16.72	

Mass NO_x, g/mile

Between	3.70	2	1.85	F	0.99	Grand mean: 3.82
Within	72.93	39	1.87	Within SD	1.37	
Total	76.63	41	1.87	Total SD	1.37	

Mass NO_x corrected, g/mile

Between	4.20	2	2.10	F	1.27	Grand mean: 3.63
Within	64.47	39	1.65	Within SD	1.29	
Total	68.67	41	1.67	Total SD	1.29	

F 5% 3.24 1% 5.19

Emission Levels – Green Engine, Phase I

Between Cities (excluding Denver) for same make – Ford

Mass HC, g/mile

Cities	Sum of Squares	Df	Mean Square	Non-scaled units	
Between	13.19	2	6.60	F 38.26 **	Grand
Within	9.66	56	0.17	Within SD 0.42	mean:
Total	22.85	58	0.39	Total SD 0.63	1.67

Mass CO, g/mile

Between	3419.28	2	1709.64	F 13.47 **	Grand
Within	7108.45	56	126.94	Within SD 11.27	mean:
Total	10527.74	58	181.51	Total SD 13.47	21.28

Mass NO_x, g/mile

Between	4.56	2	2.28	F 1.56	Grand
Within	81.67	56	1.46	Within SD 1.21	mean:
Total	86.23	58	1.49	Total SD 1.22	3.86

Mass NO_x corrected, g/mile

Between	8.55	2	4.28	F 3.11	Grand
Within	77.00	56	1.38	Within SD 1.17	mean:
Total	85.55	58	1.48	Total SD 1.21	3.68

F 5% 3.14 1% 4.99

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Emission Levels - Green Engine, Phase 1

Between Cities (excluding Denver) for same make - Chevrolet

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	0.98	2	0.49	F	1.81	Grand mean: 1.29
Within	12.12	45	0.27	Within SD	0.52	
Total	13.10	47	0.28	Total SD	0.53	

Mass CO, g/mile

Between	221.52	2	110.76	F	1.01	Grand mean: 20.08
Within	4910.72	45	109.13	Within SD	10.45	
Total	5132.24	47	109.20	Total SD	10.45	

Mass NO_x, g/mile

Between	3.52	2	1.76	F	3.09	Grand mean: 2.95
Within	25.65	45	0.57	Within SD	075	
Total	29.17	47	0.62	Total SD	0.79	

Mass NO_x corrected, g/mile

Between	1.50	2	0.75	F	1.52	Grand mean: 284
Within	22.31	45	0.50	Within SD	0.70	
Total	23.81	47	0.51	Total SD	0.71	

F 5% 3.20 1% 5.16

Emission Levels - Green Engine, Phase 1

Between Cities (excluding Denver) for same make
LA, Detroit - Pontiac

Mass HC, g/mile

Cities	Sum of Squares	Df	Mean Square	Non-scaled units		
Between	0.30	1	0.30	F	2.06	Grand mean: 1.26
Within	0.89	6	0.15	Within SD	0.38	
Total	1.19	7	0.17	Total SD	0.41	

Mass CO, g/mile

Between	838.98	1	838.98	F	2.47	Grand mean: 27.73
Within	2038.19	6	339.70	Within SD	18.43	
Total	2877.18	7	411.03	Total SD	20.27	

Mass NO_x, g/mile

Between	2.61	1	2.61	F	10.73 *	Grand mean: 2.88
Within	1.46	6	0.24	Within SD	0.49	
Total	4.08	7	0.58	Total SD	0.76	

Mass NO_x corrected, g/mile

Between	2.34	1	2.34	F	11.05 *	Grand mean: 2.65
Within	1.27	6	0.21	Within SD	0.46	
Total	3.62	7	0.52	Total SD	0.72	

F 5% 5.99 1% 13.74

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Emission Levels - Green Engine, Phase 1

Between Cities (excluding Denver) for same make - Oldsmobile

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	0.03	2	0.01	F	0.30	Grand mean: 0.76
Within	0.44	9	0.05	Within SD	0.22	
Total	0.47	11	0.04	Total SD	0.21	

Mass CO, g/mile

Between	110.07	2	55.04	F	4.13	Grand mean: 10.51
Within	120.02	9	13.34	Within SD	3.65	
Total	230.09	11	20.92	Total SD	4.57	

Mass NO_x, g/mile

Between	0.97	2	0.48	F	8.01 *	Grand mean: 2.87
Within	0.54	9	0.06	Within SD	0.25	
Total	1.51	11	0.14	Total SD	0.37	

Mass NO_x corrected, g/mile

Between	0.36	2	0.18	F	3.39	Grand mean: 2.79
Within	0.48	9	0.05	Within SD	0.23	
Total	0.84	11	0.08	Total SD	0.28	

F 5% 4.26 1% 8.02

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Emission Levels - Green Engine, Phase 1

Between Cities (excluding Denver) for same make - Buick

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	0.74	2	0.37	F	9.24 **	Grand mean: 1.00
Within	0.52	13	0.04	Within SD	0.20	
Total	1.26	15	0.08	Total SD	0.29	

Mass CO, g/mile

Between	286.26	2	143.13	F	2.39	Grand mean: 15.84
Within	777.83	13	59.83	Within SD	7.73	
Total	1064.09	15	70.94	Total SD	8.42	

Mass NO_x, g/mile

Between	0.29	2	0.15	F	0.80	Grand mean: 2.49
Within	2.38	13	0.18	Within SD	0.43	
Total	2.67	15	0.18	Total SD	0.42	

Mass NO_x corrected, g/mile

Between	0.39	2	0.20	F	1.07	Grand mean: 2.35
Within	2.38	13	0.18	Within SD	0.43	
Total	2.78	15	0.19	Total SD	0.43	

F 5% 3.80 1% 6.70

1.407

Emission Levels - Green Engine, Phase 1

Between Cities (excluding Denver) for same make
Houston, LA - Cadillac

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	0.02	1	0.02	F	1.41	Grand mean: 0.56
Within	0.01	1	0.01	Within SD	0.11	
Total	0.03	2	0.01	Total SD	0.12	

Mass CO, g/mile

Between	34.27	1	34.27	F	3.86	Grand mean: 12.63
Within	8.88	1	8.88	Within SD	2.98	
Total	43.15	2	21.58	Total SD	4.65	

Mass NO_x, g/mile

Between	0.15	1	0.15	F	18.18	Grand mean: 2.39
Within	0.01	1	0.01	Within SD	0.09	
Total	0.16	2	0.08	Total SD	0.28	

Mass NO_x corrected, g/mile

Too low

Between	0.08	1	0.08	F	192.67	Grand mean: 2.25
Within	0.00	1	0.00	Within SD	0.02	
Total	0.08	2	0.04	Total SD	0.20	

F 5% 1% 405

- ONLY 3 VEHICLES -

1.408

Emission Levels - Green Engine, Phase 1

Between Cities (excluding Denver) for same make
- General Motors

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	1.63	2	0.82	F	3.68*	Grand mean: 1.14
Within	18.67	84	0.22	Within SD	0.47	
Total	20.30	86	0.24	Total SD	0.49	

Mass CO, g/mile

Between	524.62	2	262.31	F	2.08	Grand mean: 18.42
Within	10606.96	84	126.27	Within SD	11.24	
Total	11131.58	86	129.44	Total SD	11.38	

Mass NO_x, g/mile

Between	5.25	2	2.62	F	6.18**	Grand mean: 2.83
Within	35.66	84	0.42	Within SD	0.65	
Total	40.91	86	0.48	Total SD	0.69	

Mass NO_x corrected, g/mile

Between	2.73	2	1.37	F	3.62*	Grand mean: 2.70
Within	31.70	84	0.38	Within SD	0.61	
Total	34.43	86	0.40	Total SD	0.63	

F 5% 3.11 1% 4.88

Emission Levels 2.13< Green Engine, Phase 1

Between Cities (excluding Denver) for same make
Houston, LA - Volkswagen

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	0.07	1	0.07	F	0.32	Grand mean: 1.62
Within	3.96	18	0.22	Within SD	0.47	
Total	4.03	19	0.21	Total SD	0.46	

Mass CO, g/mile

Between	41.63	1	41.63	F	0.31	Grand mean: 25.40
Within	2398.64	18	133.26	Within SD	11.54	
Total	2440.[illegible]	19	128.44	Total SD	11.33	

Mass NO_x, g/mile

Between	0.00	1	0.00	F	0.00	Grand mean: 2.89
Within	13.15	18	0.73	Within SD	0.85	
Total	13.15	19	0.69	Total SD	0.83	

Mass NO_x corrected, g/mile

Between	0.33	1	0.33	F	0.48	Grand mean: 2.81
Within	12.60	18	0.70	Within SD	0.84	
Total	12.94	19	0.68	Total SD	0.83	

F 5% 4.41 1% 8.28

Emission Levels - Green Engine, Phase 1

Between Cities (excluding Denver) for same make - All vehicles

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	8.73	2	4.36	F	8.69 **	Grand mean: 1.48
Within	111.50	222	0.50	Within SD	0.71	
Total	120.23	224	0.54	Total SD	0.73	

Mass CO, g/mile

Between	3635.70	2	1817.85	F	8.69 **	Grand mean: 23.74
Within	46462.54	222	209.29	Within SD	14.47	
Total	50098.23	224	223.65	Total SD	14.96	

Mass NO_x, g/mile

Between	0.11	2	0.06	F	0.04	Grand mean: 3.30
Within	288.44	222	1.30	Within SD	1.14	
Total	288.55	224	1.29	Total SD	1.13	

Mass NO_x corrected, g/mile

Between	3.55	2	1.77	F	1.48	Grand mean: 3.15
Within	266.42	222	1.20	Within SD	1.10	
Total	269.97	224	1.21	Total SD	1.10	

F 5% 3.03 1% 4.69

SECTION D-2

Phase II (Stabilized Engine)

SECTION D-2.1

Between Makes In The Same City

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Emission Levels – Stabilized Engine, Phase 2

Between Makes for the same city – Houston

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	24.01	7	3.43	F	4.99 **	Grand mean: 2.41
Within	39.16	57	0.69	Within SD	0.83	
Total	63.17	64	0.99	Total SD	0.99	

F 5% 2.18 1% 2.98

Mass CO, g/mile

Between	6860.46	7	980.07	F	2.61 *	Grand mean: 33.72
Within	21387.93	57	375.23	Within SD	19.37	
Total	28248.38	64	441.38	Total SD	21.01	

F 5% 2.18 1% 2.98

Mass NO_x, g/mile

Between	51.52	7	7.36	F	2.98 **	Grand mean: 3.95
Within	138.39	56	2.47	Within SD	1.57	
Total	189.91	63	3.01	Total SD	1.74	

F 5% 2.18 1% 2.98

Mass NO_x corrected, g/mile

Between	51.56	7	7.37	F	2.58 *	Grand mean: 4.27
Within	159.79	56	2.85	Within SD	1.69	
Total	211.35	63	3.35	Total SD	1.83	

F 5% 2.18 1% 2.98

Emission Levels – Stabilized Engine, Phase 2

Between Makes for the same city – LA

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	9.60	8	1.20	F	0.88	Grand mean: 1.68
Within	140.10	103	1.36	Within SD	1.17	
Total	149.70	111	1.35	Total SD	1.16	

Mass CO, g/mile

Between	8636.56	8	1079.57	F	3.51 **	Grand mean: 25.25
Within	31660.18	103	307.38	Within SD	17.53	
Total	40296.75	111	363.03	Total SD	19.05	

Mass NO_x, g/mile

Between	29.53	8	3.69	F	2.41 *	Grand mean: 3.53
Within	157.65	103	1.53	Within SD	1.24	
Total	187.18	111	1.69	Total SD	1.30	

Mass NO_x corrected, g/mile

Between	26.26	8	3.28	F	2.45 *	Grand mean: 3.41
Within	138.31	103	1.34	Within SD	1.16	
Total	164.57	111	1.48	Total SD	1.22	

F 5% 2.05 1% 2.70

225<

Emission Levels – Stabilized Engine, Phase 2

Between Makes for the same city – Detroit

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	6.93	5	1.39	F	0.88	Grand mean: 2.77
Within	66.25	42	1.58	Within SD	1.26	
Total	73.18	47	1.56	Total SD	1.25	

Mass CO, g/mile

Between	2574.21	5	514.84	F	1.40	Grand mean: 31.46
Within	15392.47	42	366.49	Within SD	19.14	
Total	17966.68	47	382.27	Total SD	19.55	

Mass NO_x, g/mile

Between	42.94	5	8.59	F	4.98**	Grand mean: 3.83
Within	72.42	42	1.72	Within SD	1.31	
Total	115.36	47	2.45	Total SD	1.57	

Mass NO_x corrected, g/mile

Between	40.24	5	8.05	F	5.03**	Grand mean: 3.81
Within	67.19	42	1.60	Within SD	1.26	
Total	107.43	47	2.29	Total SD	1.51	

F 5% 2.44 1% 3.49

Emission Levels – Stabilized Engine, Phase 2

Between Makes for the same city – Denver

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	90.71	8	11.34	F	0.69	Grand mean: 3.16
Within	2208.35	135	16.36	Within SD	4.04	
Total	2299.05	143	16.08	Total SD	4.01	

Mass CO, g/mile

Between	16347.93	8	2043.49	F	4.78**	Grand mean: 45.20
Within	57677.92	135	427.24	Within SD	20.67	
Total	74025.87	143	517.66	Total SD	22.75	

Mass NO_x, g/mile

Between	115.87	8	14.48	F	9.78**	Grand mean: 3.37
Within	200.02	135	1.48	Within SD	1.22	
Total	315.89	143	2.21	Total SD	1.49	

Mass NO_x corrected, g/mile

Between	94.82	8	11.85	F	8.50**	Grand mean: 3.19
Within	188.24	135	1.39	Within SD	1.18	
Total	283.06	143	1.98	Total SD	1.41	

F 5% 2.01 1% 2.65

Emission Levels – Stabilized Engine, Phase 2

Between Makes for three cities (excluding Denver)

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	16.83	8	2.10	F	1.44	Grand mean: 2.12
Within	315.85	216	1.46	Within SD	1.21	
Total	332.68	224	1.49	Total SD	1.22	

Mass CO, g/mile

Between	13644.93	8	1705.62	F	4.84**	Grand mean: 29.02
Within	76173.92	216	352.66	Within SD	18.78	
Total	89818.84	224	400.98	Total SD	20.02	

Mass NO_x, g/mile

Between	84.52	8	10.56	F	5.47**	Grand mean: 3.71
Within	415.36	215	1.93	Within SD	1.39	
Total	499.88	223	2.24	Total SD	1.50	

Mass NO_x corrected, g/mile

Between	56.51	8	9.56	F	4.70**	Grand mean: 3.74
Within	437.83	215	2.04	Within SD	1.43	
Total	514.34	223	2.31	Total SD	1.52	

F 5% 1.97 1% 2.59

Emission Levels – Stabilized Engine, Phase 2

Between Makes for the four cities

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	76.50	8	9.56	F	1.30	Grand mean: 2.53
Within	2649.78	360	7.36	Within SD	2.71	
Total	2726.29	368	7.41	Total SD	2.72	

Mass CO, g/mile

Between	21740.12	8	2717.52	F	5.93 **	Grand mean: 35.34
Within	165108.08	360	458.63	Within SD	21.42	
Total	186848.20	368	507.74	Total SD	22.53	

Mass NO_x, g/mile

Between	168.02	8	21.00	F	11.45 **	Grand mean: 3.57
Within	658.46	359	1.83	Within SD	1.35	
Total	826.48	367	2.25	Total SD	1.50	

Mass NO_x corrected, g/mile

Between	154.66	8	19.33	F	10.38 **	Grand mean: 3.52
Within	668.66	359	1.86	Within SD	1.36	
Total	823.32	367	2.24	Total SD	1.50	

F 5% 1.96 1% 2.54

SECTION D-2.2

Between Manufacturers In The Same City

Emission Levels "30" - Stabilized Engine, Phase 2

Between Mfgrs for the same city — HOUSTON

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units	
Between	19.62	4	4.91	F 6.77 **	Grand
Within	43.51	60	0.73	Within SD 0.85	mean:
Total	63.13	64	0.99	Total SD 0.99	2.42

Mass CO, g/mile

Between	5611.99	4	1403.00	F 3.72 **	Grand
Within	22638.44	60	377.31	Within SD 19.42	mean:
Total	28250.43	64	441.41	Total SD 21.01	33.72

Mass NO_x, g/mile

Between	47.62	4	11.91	F 4.91 **	Grand
Within	142.98	59	2.42	Within SD 1.56	mean:
Total	190.61	63	3.03	Total SD 1.74	3.94

Mass NO_x corrected, g/mile

Between	47.58	4	11.89	F 4.29 **	Grand
Within	163.61	59	2.77	Within SD 1.67	mean:
Total	211.19	63	3.35	Total SD 1.83	4.27

F 5% 2.53 1% 3.65

Emission Levels - Stabilized Engine, Phase 2

Between Mfgrs for the same city - L.A.

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units	
Between	2.28	4	0.57	F 0.41	Grand mean: 1.68
Within	147.08	107	1.37	Within SD 1.17	
Total	149.36	111	1.35	Total SD 1.16	

Mass CO, g/mile

Between	7171.88	4	1792.97	F 13.55 **	Grand mean: 19.73
Within	14159.61	107	132.33	Within SD 11.50	
Total	21331.49	111	192.18	Total SD 13.86	

Mass NO_x, g/mile

Between	14.36	4	3.59	F 5.06 **	Grand mean: 3.29
Within	75.94	107	0.71	Within SD 0.84	
Total	90.30	111	0.81	Total SD 0.90	

Mass NO_x corrected, g/mile

Between	13.00	4	3.25	F 5.10 **	Grand mean: 3.07
Within	68.15	107	0.64	Within SD 0.80	
Total	81.15	111	0.73	Total SD 0.86	

F 5% 2.48 1% 3.50

Emission Levels — Stabilized Engine, Phase 2

Between Mfgrs for the same city — DETROIT

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units	
Between	2.96	2	1.48	F 0.95	Grand mean: 2.77
Within	69.83	45	1.55	Within SD 1.25	
Total	72.79	47	1.55	Total SD 1.24	

Mass CO, g/mile

Between	1014.24	2	507.12	F 1.35	Grand mean: 31.96
Within	16956.86	45	376.82	Within SD 19.41	
Total	17971.10	47	382.36	Total SD 19.55	

Mass NO_x, g/mile

Between	38.89	2	19.44	F 11.40 **	Grand mean: 3.83
Within	76.78	45	1.71	Within SD 1.31	
Total	115.66	47	2.46	Total SD 1.57	

Mass NO_x corrected, g/mile

Between	35.85	2	17.92	F 11.28 **	Grand mean: 3.81
Within	71.53	45	1.59	Within SD 1.26	
Total	107.38	47	2.28	Total SD 1.51	

F 5% 3.20 1% 5.16

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between Mfgrs for the same city **Denver**

Mass HC, g/mile

	Sum of Squares	Df	Mean Square	Non-scaled units	
Between	16.48	4	4.12	F 0.25	Grand mean:
Within	2283.72	139	16.43	Within SD 4.05	
Total	2300.21	143	16.09	Total SD 4.01	3.16

Mass CO, g/mile

Between	13900.15	4	3475.04	F 8.04 **	Grand mean:
Within	60113.18	139	432.47	Within SD 20.80	
Total	74013.33	143	517.58	Total SD 22.75	45.21

Mass NO_x, g/mile

Between	98.78	4	24.69	F 15.79 **	Grand mean:
Within	217.34	139	1.56	Within SD 1.25	
Total	316.12	143	2.21	Total SD 1.49	3.37

Mass NO_x corrected, g/mile

Between	79.29	4	19.82	F 13.50 **	Grand mean:
Within	204.07	139	1.47	Within SD 1.21	
Total	283.36	143	1.98	Total SD 1.41	3.19

F 5% 2.43 1% 3.45

Emission Levels – Stabilized Engine, Phase 2

Between Mfgr for the three cities
(excluding Denver)

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	3.67	4	0.92	F	0.61	Grand mean: 2.12
Within	329.94	220	1.50	Within SD	1.22	
Total	333.61	224	1.49	Total SD	1.22	

Mass CO, g/mile

Between	11504.89	4	2876.22	F	8.08**	Grand mean: 29.02
Within	78304.82	220	355.93	Within SD	18.87	
Total	89809.71	224	400.94	Total SD	20.02	

Mass NO_x, g/mile

Between	72.54	4	18.13	F	9.30**	Grand mean: 3.71
Within	427.04	219	1.93	Within SD	1.40	
Total	499.58	223	2.24	Total SD	1.50	

Mass NO_x corrected, g/mile

Between	62.39	4	15.60	F	7.54**	Grand mean: 3.74
Within	452.77	219	2.07	Within SD	1.44	
Total	515.16	223	2.31	Total SD	1.52	

F 5% 2.41 1% 3.40

Emission Levels - Stabilized Engine, Phase 2

Between Mfgrs for the same city — 4 CITIES

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units	
Between	4.97	4	1.24	F 0.67	Grand mean:
Within	2724.09	364	7.48	Within SD 2.74	
Total	2729.06	368	7.42	Total SD 2.72	2.53

Mass CO, g/mile

Between	18324.10	4	4581.03	F 9.89 **	Grand mean:
Within	168539.54	364	463.02	Within SD 21.52	
Total	186863.65	368	507.78	Total SD 22.53	35.33

Mass NO_x, g/mile

Between	146.31	4	36.58	F 19.48 **	Grand mean:
Within	681.64	363	1.88	Within SD 1.37	
Total	827.95	367	2.26	Total SD 1.50	3.58

Mass NO_x corrected, g/mile

Between	128.90	4	32.23	F 16.89 **	Grand mean:
Within	692.53	363	1.91	Within SD 1.38	
Total	821.43	367	2.24	Total SD 1.50	3.53

F 5% 2.39 1% 3.36

SECTION D-2.3

Between All Cities For The Same Make

Emission Levels - Stabilized Engine, Phase 2

Between Cities for the same make — AMC
Hous, LA, Denver

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	15.50	2	7.75	F	10.86 **	Grand mean: 2.64
Within	24.26	34	0.71	Within SD	0.84	
Total	39.76	36	1.10	Total SD	1.05	

Mass CO, g/mile

Between	6462.97	2	3231.49	F	3.48 *	Grand mean: 42.46
Within	31530.88	34	927.38	Within SD	30.45	
Total	37993.85	36	1055.38	Total SD	32.49	

Mass NO_x, g/mile

Between	13.14	2	6.57	F	3.14	Grand mean: 3.47
Within	71.12	34	2.09	Within SD	1.45	
Total	84.26	36	2.34	Total SD	1.53	

Mass NO_x corrected, g/mile

Between	27.84	2	13.90	F	6.20 **	Grand mean: 3.52
Within	76.30	34	2.24	Within SD	1.50	
Total	104.11	36	2.89	Total SD	1.70	

F 5% 3.28 1% 5.29

Emission Levels – Stabilized Engine, Phase 2

Between Cities for the same make – CHRY

(4 CITIES)

Mass HC, g/mile

Cities	Sum of Squares	Df	Mean Square	Non-scaled units	
Between	28.31	3	9.44	F 17.79 **	Grand mean: 2.55
Within	29 71	56	0.53	Within SD 0.73	
Total	58.00	59	0.98	Total SD 0.99	

Mass CO, g/mile

Between	7878.59	3	2626.20	F 4.53 **	Grand mean: 49.35
Within	32430.00	56	579.11	Within SD 24.06	
Total	40308.59	59	683.20	Total SD 26.14	

Mass NO_x, g/mile

Between	21.25	3	7.08	F 2.63	Grand mean: 4.12
Within	150.93	56	2.70	Within SD 1.64	
Total	172.18	59	2.92	Total SD 1.71	

Mass NO_x corrected, g/mile

Between	28.30	3	9.43	F 3.80 *	Grand mean: 4.00
Within	139.16	56	2.45	Within SD 1.58	
Total	167.46	59	2.84	Total SD 1.68	

F 5% 2.77 1% 4.15

Emission Levels – Stabilized Engine, Phase 2

Between Cities for the same make – FORD

4 CITIES

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units	
Between	58.20	3	19.40	F 30.60 **	Grand
Within	51.36	81	0.63	Within SD 0.80	mean:
Total	109.56	84	1.30	Total SD 1.14	2.59

Mass CO, g/mile

Between	4659.27	3	1551.42	F 6.82 **	Grand
Within	18415.46	81	227.35	Within SD 15.08	mean:
Total	23069.73	84	274.64	Total SD 16.57	31.47

Mass NO_x, g/mile

Between	28.75	3	9.58	F 3.74 *	Grand
Within	207.34	81	2.56	Within SD 1.60	mean:
Total	236.09	84	2.81	Total SD 1.68	4.45

Mass NO_x corrected, g/mile

Between	28.81	3	9.60	F 3.77 *	Grand
Within	206.32	81	2.55	Within SD 1.60	mean:
Total	235.14	84	2.80	Total SD 1.67	4.36

F 5% 2.72 1% 4.03

Emission Levels – Stabilized Engine, Phase 2

Between Cities for the same make – Chevrolet

4 CITIES

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units	
Between	80.42	3	26.81	F 0.91	Grand mean:
Within	2290.54	78	29.37	Within SD 5.42	
Total	2370.95	81	29.27	Total SD 5.41	3.14

Mass CO, g/mile

Between	12978.29	3	4326.10	F 14.58 **	Grand mean:
Within	23138.33	78	296.65	Within SD 17.22	
Total	36116.61	81	445.88	Total SD 21.12	33.85

Mass NO_x, g/mile

Between	16.67	3	5.56	F 6.41 **	Grand mean:
Within	66.79	77	0.87	Within SD 0.93	
Total	83.47	80	1.04	Total SD 1.02	3.14

Mass NO_x corrected, g/mile

Between	21.67	3	7.22	F 8.90 **	Grand mean:
Within	62.50	77	0.81	Within SD 0.90	
Total	84.18	80	1.05	Total SD 1.03	3.11

F 5% 2.72 1% 4.05

Emission Levels – Stabilized Engine, Phase 2

Between Cities for the same make – PONT

L.A, DET, DENV

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units	
Between	0.99	2	0.50	F 1.21	Grand mean: 1.96
Within	4.10	10	0.41	Within SD 0.64	
Total	5.09	12	0.42	Total SD 0.65	

Mass CO, g/mile

Between	1279.28	2	639.64	F 0.85	Grand mean: 29.91
Within	7552.34	10	755.23	Within SD 27.48	
Total	8831.62	12	735.97	Total SD 27.13	

Mass NO_x, g/mile

Between	2.28	2	1.14	F 3.30	Grand mean: 2.81
Within	3.45	10	0.35	Within SD 0 59	
Total	5.73	12	0.48	Total SD 0.69	

Mass NO_x corrected, g/mile

Between	1.48	2	0.74	F 2.15	Grand mean: 2.75
Within	3.44	10	0.34	Within SD 0.59	
Total	4.92	12	0.41	Total SD 0.64	

F 5% 4.10 1% 7.56

202<

Emission Levels – Stabilized Engine, Phase 2

Between Cities for the same make — OLDS

4 CITIES

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units	
Between	8.47	3	2.82	F 2.35	Grand mean: 1.72
Within	16.81	14	1.20	Within SD 1.10	
Total	25.28	17	1.49	Total SD 1.22	

Mass CO, g/mile

Between	1960.71	3	653.57	F 9.84 **	Grand mean: 19.81
Within	929.55	14	66.40	Within SD 8.15	
Total	2890.25	17	170 01	Total SD 13.04	

Mass NO_x, g/mile

Between	5.42	3	1.81	F 1.32	Grand mean: 3.93
Within	19.24	14	1.37	Within SD 1.17	
Total	24 67	17	1.45	Total SD 1.20	

Mass NO_x corrected, g/mile

Between	1.0	3	0.34	F 0.25	Grand mean: 3,98
Within	19.40	14	1.39	Within SD 1.18	
Total	20.42	17	1.20	Total SD 1.10	

F 5% 3.34 1% 5.56

Emission Levels – Stabilized Engine, Phase 2

Between Cities for the same make – Buick (4 cities)

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	2.69	3	0.90	F	0.96	Grand mean: 1.92
Within	19.71	21	0.94	Within SD	0.97	
Total	22.40	24	0.93	Total SD	0.97	

Mass CO, g/mile

Between	2506.43	3	835.48	F	4.32*	Grand mean: 29.82
Within	4056.72	21	193.18	Within SD	13.90	
Total	6563.15	24	273.46	Total SD	16.54	

Mass NO_x, g/mile

Between	2.01	3	0.67	F	1.79	Grand mean: 2.54
Within	7.88	21	0.38	Within SD	0.61	
Total	9.89	24	0.41	Total SD	0.64	

Mass NO_x corrected, g/mile

Between	2.98	3	0.99	F	3.34*	Grand mean: 2.48
Within	6.25	21	0.30	Within SD	0.55	
Total	9.23	24	0.38	Total SD	0.62	

F 5% 3.05 1% 4.87

Emission Levels – Stabilized Engine, Phase 2

Between Cities for the same make – Cadillac (Hous, LA, Denver)

Mass HC, g/mile

Cities	Sum of Squares	Df	Mean Square	Non-scaled units		
Between	0.13	2	0.07	F	0.44	Grand mean: 0.91
Within	0.46	3	0.15	Within SD	0.39	
Total	0.59	5	0.12	Total SD	0.34	

6 cars

Mass CO, g/mile

Between	1239.96	2	619.98	F	17.69 *	Grand mean: 28.14
Within	105.13	3	35.04	Within SD	5.92	
Total	1345.09	5	269.02	Total SD	16.40	

Mass NO_x, g/mile

Between	0.82	2	0.41	F	2.56	Grand mean: 2.91
Within	0.48	3	0.16	Within SD	0.40	
Total	1.30	5	0.26	Total SD	0.51	

Mass NO_x corrected, g/mile

Between	1.18	2	0.59	F	8.18	Grand mean: 2.87
Within	0.22	3	0.07	Within SD	0.27	
Total	1.40	5	0.28	Total SD	0.53	

F 5% 9.55 1% 30.82

only 6 cars

Emission Levels - Stabilized Engine, Phase 2

Between Cities for the same make - Gen Motors

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	74.47	3	24.82	F	1.43	Grand mean: 2.55
Within	2421.90	140	17.30	Within SD	4.16	
Total	2496.37	143	17.46	Total SD	4.18	

Mass CO, g/mile

Between	17397.60	3	5799.20	F	19.44 **	Grand mean: 30.68
Within	41767.68	140	298.34	Within SD	17.27	
Total	59165.28	143	413.74	Total SD	20.34	

Mass NO_x, g/mile

Between	13.30	3	4.43	F	4.61 **	Grand mean: 3.09
Within	133.73	139	0.96	Within SD	0.98	
Total	147.04	142	1.04	Total SD	1.02	

Mass NO_x corrected, g/mile

Between	20.79	3	6.93	F	7.73 **	Grand mean: 3.06
Within	124.56	139	0.90	Within SD	0.95	
Total	145.35	142	1.02	Total SD	1.01	

F 5% 2.67 1% 3.92

2.96<

Emission Levels – Stabilized Engine, Phase 2

Between Cities for the same make – VW

(Hous, LA, Denver)

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	1.80	2	0.90	F	2.13	Grand mean: 2.22
Within	16.91	40	0.42	Within SD	0.65	
Total	18.71	42	0.45	Total SD	0.67	

Mass CO, g/mile

Between	35.79	2	17.90	F	0.09	Grand mean: 32.89
Within	7960.13	40	199.00	Within SD	14.11	
Total	7995.92	42	190.38	Total SD	13.80	

Mass NO_x, g/mile

Between	1.94	2	0.97	F	0.94	Grand mean: 2.77
Within	41.23	40	1.03	Within SD	1.02	
Total	43.17	42	1.03	Total SD	1.01	

Mass NO_x corrected, g/mile

Between	2.65	2	1.32	F	1.32	Grand mean: 2.74
Within	39.93	40	1.00	Within SD	1.00	
Total	42.58	42	1.01	Total SD	1.01	

F 5% 3.23 1% 5.18

2.47<

Emission Levels – Stabilized Engine, Phase 2

Between Cities for the same make – All vehicles (4 cities)

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	141.77	3	47.26	F	6.67 **	Grand mean: 2.53
Within	2586.25	365	7.09	Within SD	2.66	
Total	2728.03	368	7.41	Total SD	2.72	

Mass CO, g/mile

Between	26317.92	3	8772.64	F	19.95 **	Grand mean: 35.33
Within	160508.02	365	439.75	Within SD	20.97	
Total	186825.94	368	507.68	Total SD	22.53	

Mass NO_x, g/mile

Between	18.53	3	6.18	F	2.77 *	Grand mean: 3.57
Within	811.65	364	2.23	Within SD	1.49	
Total	830.18	367	2.26	Total SD	1.50	

Mass NO_x corrected, g/mile

Between	56.79	3	18.93	F	8.98 **	Grand mean: 3.52
Within	767.66	364	2.11	Within SD	1.45	
Total	824.45	367	225	Total SD	1.50	

F 5% 2.63 1% 3.84

SECTION D-2.4

Between All Cities (Excluding Denver)
For The Same Make

Emission Levels – Stabilized Engine, Phase 2

Between Cities (excluding Denver) for same make
Houston, LA – AMC

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units	
Between	1.68	1	1.68	F 7.61**	Grand mean: 1.97
Within	3.31	15	0.22	Within SD 0.47	
Total	4.99	16	0.31	Total SD 0.56	

Mass CO, g/mile

Between	13.88	1	13.88	F 0.08	Grand mean: 28.14
Within	2498.34	15	166.56	Within SD 12.91	
Total	2512.22	16	157.01	Total SD 12.53	

Mass NO_x, g/mile

Between	7.83	1	7.83	F 3.91	Grand mean: 3.88
Within	30.06	15	2.00	Within SD 1.42	
Total	37.90	16	2.37	Total SD 1.54	

Mass NO_x corrected, g/mile

Between	18.86	1	18.86	F 9.60**	Grand mean: 4.06
Within	29.47	15	1.96	Within SD 1.40	
Total	48.33	16	3.02	Total SD 1.74	

F 5% 4.54 1% 8.68

250<

Emission Levels – Stabilized Engine, Phase 2

Between Cities (excluding Denver) for same make – Chrysler

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	11.45	2	5.73	F	10.56 **	Grand mean: 2.20
Within	21.14	39	0.54	Within SD	0.74	
Total	32.59	41	0.79	Total SD	0.89	

Mass CO, g/mile

Between	1023.21	2	511.61	F	0.78	Grand mean: 42.35
Within	25513.90	39	654.20	Within SD	25.58	
Total	26537.12	41	647.25	Total SD	25.44	

Mass NO_x, g/mile

Between	13.51	2	6.76	F	2.35	Grand mean: 4.35
Within	112.17	39	2.88	Within SD	1.70	
Total	125.68	41	3.07	Total SD	1.75	

Mass NO_x corrected, g/mile

Between	19.06	2	9.53	F	3.54 *	Grand mean: 4.26
Within	104.88	39	2.69	Within SD	1.64	
Total	123.94	41	3.02	Total SD	1.74	

F 5% 3.24 1% 5.19

2.51<

Emission Levels – Stabilized Engine, Phase 2

Between Cities (excluding Denver) for same make – Ford

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	42.34	2	21.17	F	32.79**	Grand mean: 2.30
Within	36.15	56	0.65	Within SD	0.80	
Total	78.49	58	1.35	Total SD	1.16	

Mass CO, g/mile

Between	3048.51	2	1524.26	F	5.79**	Grand mean: 28.59
Within	14730.97	56	263.05	Within SD	16.22	
Total	17779.48	58	306.54	Total SD	17.51	

Mass NO_x, g/mile

Between	15.46	2	7.73	F	3.15*	Grand mean: 4.19
Within	137.62	56	2.46	Within SD	1.57	
Total	153.09	58	2.64	Total SD	1.62	

Mass NO_x corrected, g/mile

Between	24.98	2	12.49	F	4.81*	Grand mean: 4.22
Within	145.48	56	2.60	Within SD	1.61	
Total	170.47	58	2.94	Total SD	1.71	

F 5% 3.14 1% 4.99

252<

Emission Levels – Stabilized Engine, Phase 2

Between Cities (excluding Denver) for same make – Chevrolet

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	5.72	2	2.86	F	0.88	Grand mean: 2.33
Within	146.74	45	3.26	Within SD	1.81	
Total	152.46	47	3.24	Total SD	1.80	

Mass CO, g/mile

Between	1638.53	2	819.27	F	2.98	Grand mean: 23.95
Within	12386.84	45	275.26	Within SD	16.59	
Total	14025.38	47	298.41	Total SD	17.27	

Mass NO_x, g/mile

Between	3.90	2	1.95	F	1.82	Grand mean: 3.47
Within	47.23	44	1.07	Within SD	1.04	
Total	51.13	46	1.11	Total SD	1.05	

Mass NO_x corrected, g/mile

Between	4.72	2	2.36	F	2.42	Grand mean: 3.50
Within	42.94	44	0.98	Within SD	0.99	
Total	47.66	46	1.04	Total SD	1.02	

F 5% 3.20 1% 5.16

253<

Emission Levels – Stabilized Engine, Phase 2

Between Cities (excluding Denver) for same make

LA, Detroit – Pontiac

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	0.19	1	0.19	F	0.46	Grand mean: 1.76
Within	2.51	6	0.42	Within SD	0.65	
Total	2.71	7	0.39	Total SD	0.62	

Mass CO, g/mile

Between	1273.71	1	1273.71	F	1.19	Grand mean: 30.43
Within	6435.44	6	1072.57	Within SD	32.75	
Total	7709.15	7	1101.31	Total SD	33.19	

Mass NO_x, g/mile

Between	2.02	1	2.02	F	4.13	Grand mean: 2.70
Within	2.93	6	0.49	Within SD	0.70	
Total	4.95	7	0.71	Total SD	0.84	

Mass NO_x corrected, g/mile

Between	1.47	1	1.47	F	2.73	Grand mean: 2.73
Within	3.23	6	0.54	Within SD	0.73	
Total	4.70	7	0.67	Total SD	0.82	

F 5% 5.99 1% 13.74

Emission Levels – Stabilized Engine, Phase 2

Between Cities (excluding Denver) for same make – Oldsmobile

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	8.22	2	4.11	F	2.53	Grand mean: 1.64
Within	14.63	9	1.63	Within SD	1.27	
Total	22.85	11	2.08	Total SD	1.44	

Mass CO, g/mile

Between	320.46	2	160.23	F	2.34	Grand mean: 12.06
Within	617.50	9	68.61	Within SD	8.28	
Total	937.95	11	85.27	Total SD	9.23	

Mass NO_x, g/mile

Between	4.32	2	2.16	F	1.22	Grand mean: 3.75
Within	15.96	9	1.77	Within SD	1.33	
Total	20.28	11	1.84	Total SD	1.36	

Mass NO_x corrected, g/mile

Between	0.97	2	0.49	F	0.25	Grand mean: 3.94
Within	17.16	9	1.91	Within SD	1.38	
Total	18.13	11	1.65	Total SD	1.28	

F 5% 4.26 1% 8.02

255

Emission Levels – Stabilized Engine, Phase 2

Between Cities (excluding Denver) for same make – Buick

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	1.23	2	0.62	F	0.60	Grand mean: 1.74
Within	13.37	13	1.03	Within SD	1.01	
Total	14.61	15	0.97	Total SD	0.99	

Mass CO, g/mile

Between	415.84	2	207.92	F	1.13	Grand mean: 22.96
Within	2381.67	13	183.21	Within SD	13.54	
Total	2797.51	15	186.50	Total SD	13.66	

Mass NO_x, g/mile

Between	0.58	2	0.29	F	1.11	Grand mean: 2.72
Within	3.38	13	0.26	Within SD	0.51	
Total	3.96	15	0.26	Total SD	0.51	

Mass NO_x corrected, g/mile

Between	0.08	2	0.04	F	0.18	Grand mean: 2.74
Within	2.76	13	0.21	Within SD	0.46	
Total	2.84	15	0.19	Total SD	0.44	

F 5% 3.80 1% 6.70

Emission Levels – Stabilized Engine, Phase 2

Between Cities (excluding Denver) for same make
Houston, LA – Cadillac

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	0.02	1	0.02	F	0.42	Grand mean: 0.77
Within	0.04	1	0.04	Within SD	0.19	
Total	0.05	2	0.03	Total SD	0.16	

Mass CO, g/mile

Between	0.12	1	0.12	F	0.01	Grand mean: 13.76
Within	20.88	1	20.88	Within SD	4.57	
Total	21.00	2	10.50	Total SD	3.24	

Mass NO_x, g/mile

Between	0.05	1	0.05	F	0.17	Grand mean: 3.27
Within	0.31	1	0.31	Within SD	0.56	
Total	0.37	2	0.18	Total SD	0.43	

Mass NO_x corrected, g/mile

Between	0.00	1	0.00	F	0.02	Grand mean: 3.32
Within	0.14	1	0.14	Within SD	0.37	
Total	0.14	2	0.07	Total SD	0.26	

F 5% 161 1% 4052

– ONLY 3 VEHICLES –

Emission Levels – Stabilized Engine, Phase 2

Between Cities (excluding Denver) for same make – General Motors

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	12.88	2	6.44	F	2.81	Grand mean: 2.02
Within	192.19	84	2.29	Within SD	1.51	
Total	205.07	86	2.38	Total SD	1.54	

Mass CO, g/mile

Between	2242.07	2	1121.03	F	3.71 *	Grand mean: 22.37
Within	25392.72	84	302.29	Within SD	17.39	
Total	27634.78	86	321.33	Total SD	17.93	

Mass NO_x, g/mile

Between	4.56	2	2.28	F	2.14	Grand mean: 3.30
Within	88.37	83	1.06	Within SD	1.03	
Total	92.93	85	1.09	Total SD	1.05	

Mass NO_x corrected, g/mile

Between	4.48	2	2.24	F	2.24	Grand mean: 3.34
Within	83.14	83	1.00	Within SD	1.00	
Total	87.62	85	1.03	Total SD	1.02	

F 5% 3.11 1% 4.88

2.50<

Emission Levels – Stabilized Engine, Phase 2

Between Cities (excluding Denver) for same make – Volkswagen

Houston, LA

Mass HC, g/mile

Cities	Sum of Squares	Df	Mean Square	Non-scaled units		
Between	0.14	1	0.14	F	0.34	Grand mean: 2.01
Within	7.62	18	0.42	Within SD	0.65	
Total	7.76	19	0.41	Total SD	0.64	

Mass CO, g/mile

Between	2.22	1	2.22	F	0.01	Grand mean: 31.94
Within	3855.02	18	214.17	Within SD	14.63	
Total	3857.25	19	203.01	Total SD	14.25	

Mass NO_x, g/mile

Between	0.54	1	0.54	F	0.52	Grand mean: 2.58
Within	18.79	18	1.04	Within SD	1.02	
Total	19.33	19	1.02	Total SD	1.01	

Mass NO_x corrected, g/mile

Between	2.57	1	2.57	F	2.40	Grand mean: 2.69
Within	19.23	18	1.07	Within SD	1.03	
Total	21.80	19	1.15	Total SD	1.07	

F 5% 4.41 1% 8.28

Emission Levels – Stabilized Engine, Phase 2

Between Cities (excluding Denver) for same make – All vehicles

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	47.43	2	2371	F	18.86 **	Grand mean: 2.12
Within	286.80	222	1.29	Within SD	1.14	
Total	334.23	224	1.49	Total SD	1.22	

Mass CO, g/mile

Between	3321.92	2	1660.96	F	4.26	Grand mean: 29.02
Within	86496.58	222	389.62	Within SD	19.74	
Total	89818.50	224	400.98	Total SD	20.02	

Mass NO_x, g/mile

Between	7.71	2	3.85	F	1.72	Grand mean: 3.71
Within	494.18	221	2.24	Within SD	1.50	
Total	501.88	223	2.25	Total SD	1.50	

Mass NO_x corrected, g/mile

Between	30.34	2	15.17	F	6.94 **	Grand mean: 3.74
Within	483.36	221	2.19	Within SD	1.48	
Total	513.70	223	2.30	Total SD	1.52	

F 5% 3.03 1% 4.69

SECTION D-3

Phase II - Phase I
(Differences)

SECTION D-3.1

Between Makes In The Same City

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Makes in same city — HOUSTON (8 makes)

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	7.52	7	1.07	F	1.39	Grand mean: 0.83
Within	44.11	57	0.77	Within SD	0.88	
Total	51.63	64	0.81	Total SD	0.90	

F 5% 2.16 1% 2.94

Mass CO, g/mile

Between	2896.54	7	413.79	F	1.18	Grand mean: 6.60
Within	19912.31	57	349.34	Within SD	18.69	
Total	22808.85	64	356.39	Total SD	18.87	

F 5% 2.16 1% 2.94

Mass NO_x, g/mile

Between	16.78	7	2.39	F	1.84	Grand mean: 0.59
Within	72.67	56	1.30	Within SD	1.14	
Total	89.42	63	1.42	Total SD	1.19	

Mass NO_x corr., g/mile

Between	15.77	7	2.25	F	1.67	Grand mean: 0.90
Within	75.41	56	1.35	Within SD	1.16	
Total	91.19	63	1.45	Total SD	1.20	

F 5% 2.17

2633

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Makes in same city — LOS ANGELES (9 makes)

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	11.68	8	1.46	F	1.13	Grand mean: 0.39
Within	133.06	103	1.29	Within SD	1.14	
Total	144.74	111	1.30	Total SD	1.14	

Mass CO, g/mile

Between	2024.58	8	253.07	F	0.69	Grand mean: 5.51
Within	37989.64	103	368.83	Within SD	19.20	
Total	40014.22	111	360.49	Total SD	18.99	

Mass NO_x, g/mile

Between	15.52	8	1.94	F	1.62	Grand mean: 0.24
Within	123.21	103	1.20	Within SD	1.09	
Total	138.73	111	1.25	Total SD	1.12	

Mass NO_x corr., g/mile

Between	12.77	8	1.60	F	1.57	Grand mean: 0.33
Within	104.50	103	1.01	Within SD	1.01	
Total	117.27	111	1.06	Total SD	1.03	

F 5% 2.05

261<

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Makes in same city — DETROIT
(6 makes)

Mass HC, g/mile

	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	10.28	5	2.06	F	1.47	Grand mean: 1.00
Within	58.91	42	1.40	Within SD	1.18	
Total	69.19	47	1.47	Total SD	1.21	

Mass CO, g/mile

Between	1045.96	5	209.19	F	0.38	Grand mean: 2.95
Within	23147.36	42	551.13	Within SD	23.48	
Total	24193.32	47	514.75	Total SD	22.69	

Mass NO_x, g/mile

Between	3.89	5	0.78	F	1.03	Grand mean: 0.56
Within	31.74	42	0.76	Within SD.	0.87	
Total	35.63	47	0.76	Total SD	0.87	

Mass NO_x corr., g/mile

Between	4.20	5	0.84	F	1.11	Grand mean: 0.72
Within	31.88	42	0.76	Within SD	0.87	
Total	36.08	47	0.77	Total SD	0.88	

F 5% 2.44 1% 3.49

265

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Makes in same city — DENVER (9 makes)

Mass HC, g/mile

	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	85.99	8	10.75	F	0.66	Grand mean: 0,53
Within	2188.24	135	16.21	Within SD	4.03	
Total	2274.23	143	15.90	Total SD	3.98	

Mass CO, g/mile

Between	7877.73	8	984.72	F	2.04*	Grand mean: 18.77
Within	65087.33	135	482.13	Within SD	21.96	
Total	72965.06	143	510.25	Total SD	22.59	

Mass NO_x, g/mile

Between	9.84	8	1.23	F	1.10	Grand mean: 0.17
Within	151.60	135	1.12	Within SD	1.06	
Total	161.44	143	1.12	Total SD	1.06	

Mass NO_x corr., g/mile

Between	9.21	8	1.15	F	1.20	Grand mean: 0.33
Within	129.06	135	0.96	Within SD	0.98	
Total	138.27	143	0.97	Total SD	0.98	

F 5% 2,01 1% 2.65

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between Makes for three cities (excluding Denver)

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	14.07	8	1.76	F	1.42	Grand mean: 0.65
Within	266.42	216	1.23	Within SD	1.11	
Total	280.48	224	1.25	Total SD	1.12	

Mass CO, g/mile

Between	728.87	8	91.11	F	0.23	Grand mean: 5.28
Within	86682.98	216	401.31	Within SD	20.03	
Total	87411.84	224	390.23	Total SD	19.75	

Mass NO_x, g/mile

Between	23.87	8	2.98	F	2.59 *	Grand mean: 0.41
Within	247.34	215	1.15	Within SD	1.07	
Total	271.21	223	1.22	Total SD	1.10	

Mass NO_x corrected, g/mile

Between	22.67	8	2.83	F	2.57 *	Grand mean: 0.58
Within	236.51	215	1.10	Within SD	1.05	
Total	259.18	223	1.16	Total SD	1.08	

F 5% 1.98 1% 2.60

Exhibit

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between Makes for Four Cities including Denver

Mass HC, g/mile

Makes	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	72.17	8	9.02	F	1.31	Grand mean: 0.60
Within	2486.25	360	6.91	Within SD	2.63	
Total	2558.41	368	6.95	Total SD	2.64	

Mass CO, g/mile

Between	6996.86	8	874.61	F	1.54	Grand mean: -4.11
Within	204142.10	360	567.06	Within SD	23.81	
Total	211138.95	368	573.75	Total SD	23.95	

Mass NO_x, g/mile

Between	18.78	8	2.35	F	2.02*	Grand mean: 0.32
Within	417.45	359	1.16	Within SD	1.08	
Total	436.24	367	1.19	Total SD	1.09	

Mass NO_x corr., g/mile

Between	21.21	8	2.65	F	2.50*	Grand mean: 0.48
Within	381.13	359	1.06	Within SD	1.03	
Total	402.34	367	1.10	Total SD	1.05	

F 5% 1.96 1% 2.56

SECTION D-3.2

Between Manufacturers In The Same City

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between Mfgrs for the same city HOUSTON

Mass HC, g/mile

	Sum of Squares	DF	Mean Square	Non-scaled units	
Between	6.92	4	1.73	F 2.32	Grand
Within	44.73	60	0.75	Within SD 0.86	mean:
Total	51.65	64	0.81	Total SD 0.90	0.83

Mass CO, g/mile

Between	2499.92	4	624.98	F 1.85	Grand
Within	20310.52	60	338.51	Within SD 18.40	mean:
Total	22810.44	64	356.41	Total SD 18.88	6.60

Mass NO_x, g/mile

Between	12.67	4	3.17	F 2.44	Grand
Within	76.64	59	1.30	Within SD 1.14	mean:
Total	89.31	63	1.42	Total SD 1.19	0.59

Mass NO_x corrected, g/mile

Between	12.76	4	3.19	F 2.40	Grand
Within	78.53	59	1.33	Within SD 1.15	mean:
Total	91.30	63	1.45	Total SD 1.20	0.90

F 5% 2.53 1% 3.65

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between Mfgrs for the same city LOS ANGELES

Mass HC, g/mile

Makes	Sum of Squares	Df	Mean Square	Non-scaled units		
Between	9.19	4	2.30	F	1.82	Grand mean: 0.39
Within	135.38	107	1.27	Within SD	1.12	
Total	144.56	111	1.30	Total SD	1.14	

Mass CO, g/mile

Between	1735.05	4	433.76	F	1.21	Grand mean: 5.51
Within	38279.41	107	357.75	Within SD	18.91	
Total	40014.46	111	360.99	Total SD	18.99	

Mass NO_x, g/mile

Between	8.07	4	2.02	F	1.65	Grand mean: 0.24
Within	130.88	107	1.22	Within SD	1.11	
Total	138.95	111	1.25	Total SD	1.12	

Mass NO_x corrected, g/mile

Between	7.27	4	1.82	F	1.77	Grand mean: 0.33
Within	110.00	107	1.03	Within SD	1.01	
Total	117.27	111	1.06	Total SD	1.03	

F 5% 2.48 1% 3.55

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between Mfgrs for the same city - **Detroit**

Mass HC, g/mile

	Sum of Squares	Df	Mean Square	Non-scaled units	
Between	4.47	2	2.23	F 1.54	Grand
Within	65.08	45	1.45	Within SD 1.20	mean:
Total	69.55	47	1.48	Total SD 1.22	1.00

Mass CO, g/mile

Between	928.73	2	464.36	F 0.90	Grand
Within	23266.30	45	517.03	Within SD 22.74	mean:
Total	24195.02	47	514.79	Total SD 22.69	2.95

Mass NO_x, g/mile

Between	2.82	2	1.41	F 1.94	Grand
Within	32.71	45	0.73	Within SD 0.85	mean:
Total	35.53	47	0.76	Total SD 0.87	0.56

Mass NO_x corrected, g/mile

Between	2.96	2	1.48	F 2.00	Grand
Within	33.32	45	0.74	Within SD 0.86	mean:
Total	36.28	47	0.77	Total SD 0.88	0.72

F 5% 3.21 1% 5.16

27:<

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between Mfgrs for the same city DENVER

Mass HC, g/mile

	Sum of Squares	Df	Mean Square	Non-scaled units	
Between	42.02	4	10.51	F 0.65	Grand mean:
Within	2233.71	139	16.07	Within SD 4.01	
Total	2275.73	143	15.91	Total SD 3.99	0.53

Mass CO, g/mile

Between	4941.69	4	1235.42	F 2.52 *	Grand mean:
Within	68031.44	139	489.43	Within SD 22.12	
Total	72973.13	143	510.30	Total SD 22.59	15.77

Mass NO_x, g/mile

Between	1.81	4	0.45	F 0.40	Grand mean:
Within	159.17	139	1.15	Within SD 1.07	
Total	160.98	143	1.13	Total SD 1.06	0.16

Mass NO_x corrected, g/mile

Between	0.98	4	0.25	F 0.25	Grand mean:
Within	137.85	139	0.99	Within SD 1.00	
Total	138.83	143	0.97	Total SD 0.99	0.33

F 5% 2.43 1% 3.46

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between Mfgrs for three cities (excluding Denver)

Mass HC, g/mile

	Sum of Squares	DF	Mean Square	Non-scaled units	
Between	10.27	4	2.56	F 2.08	Grand mean: 0.65
Within	270.84	220	1.23	Within SD 1.11	
Total	281.09	224	1.25	Total SD 1.12	

Mass CO, g/mile

Between	459.98	4	115.00	F 0.29	Grand mean: 5.28
Within	86952.60	220	395.24	Within SD 19.88	
Total	87412.58	224	390.23	Total SD 19.75	

Mass NO_x, g/mile

Between	16.92	4	4.23	F 3.64 **	Grand mean: 0.41
Within	254.25	219	1.16	Within SD 1.08	
Total	271.17	223	1.22	Total SD 1.10	

Mass NO_x corrected, g/mile

Between	15.45	4	3.86	F 3.47 **	Grand mean: 0.58
Within	243.73	219	1.11	Within SD 1.05	
Total	259.19	223	1.16	Total SD 1.08	

F 5% 2.41 1% 3.48

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between Mfgrs for the same city **4 CITIES**

Mass HC, g/mile

	Sum of Squares	Df	Mean Square	Non-scaled units	
Between	42.86	4	10.72	F 1.55	Grand
Within	2516.06	364	6.91	Within SD 2.63	mean:
Total	2558.92	368	6.95	Total SD 2.64	0.60

Mass CO, g/mile

Between	5455.53	4	1363.88	F 2.41 *	Grand
Within	205723.19	364	565.17	Within SD 23.77	mean:
Total	211178.73	368	573.86	Total SD 23.96	-4.11

Mass NO_x, g/mile

Between	6.60	4	1.65	F 1.40	Grand
Within	429.61	363	1.18	Within SD 1.09	mean:
Total	436.21	367	1.19	Total SD 1.09	0.31

Mass NO_x corrected, g/mile

Between	8.09	4	2.02	F 1.86	Grand
Within	394.97	363	1.09	Within SD 1.04	mean:
Total	403.06	367	1.10	Total SD 1.05	0.43

F 5% 2.39 1% 3.36

3.26

SECTION D-3.3

Between All Cities For The Same Make

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between cities for same make — AMC

Mass HC, g/mile — Houston, LA, Denver

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	1.53	2	0.76	F	1.17	Grand mean: 0.27
Within	22.24	34	0.65	Within SD	0.81	
Total	23.77	36	0.66	Total SD	0.81	

Mass CO, g/mile

Between	6747.10	2	3373.55	F	5.94 **	Grand mean: -8.75
Within	19309.62	34	567.93	Within SD	23.83	
Total	26056.73	36	723.80	Total SD	26.90	

Mass NO_x, g/mile

Between	10.67	2	5.34	F	3.30 *	Grand mean: 0.41
Within	54.89	34	1.61	Within SD	1.27	
Total	65.56	36	1.82	Total SD	1.35	

Mass NO_x corr., g/mile

Between	12.93	2	6.46	F	4.90 *	Grand mean: 0.65
Within	44.85	34	1.32	Within SD	1.15	
Total	57.78	36	1.60	Total SD	1.27	

F 5% 3.28 1% 5.29

277<

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between cities for same make — Chrysler 4-cities

Mass HC, g/mile

	Sum of Squares	Df	Mean Square	Non-scaled units		
Between	8.19	3	2.73	F	2.49	Grand
Within	61.37	56	1.10	Within SD	1.05	mean:
Total	69.56	59	1.18	Total SD	1.09	0.30

Mass CO, g/mile

Between	6575.51	3	2191.84	F	2.60	Grand
Within	47122.06	56	841.47	Within SD	29.01	mean:
Total	53697.56	59	910.13	Total SD	30.17	−1.10

Mass NO_x, g/mile

Between	5.51	3	1.84	F	1.13	Grand
Within	90.80	56	1.62	Within SD.	1.27	mean:
Total	96.31	59	1.63	Total SD	1.28	0.44

Mass NO_x corr., g/mile

Between	7.12	3	2.37	F	1.66	Grand
Within	80.16	56	1.43	Within SD	1.20	mean:
Total	87.28	59	1.48	Total SD	1.22	0.57

F 5% 2.77 1% 4.15

3.302

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between cities for same make — Ford

4-cities

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	16.22	3	5.41	F	4.78 **	Grand mean: 0.49
Within	91.70	81	1.13	Within SD	1.06	
Total	107.92	84	1.28	Total SD	1.13	

Mass CO, g/mile

Between	9218.17	3	3072.7	F	17.05 **	Grand mean: 1.02
Within	19066.16	81	235.38	Within SD	15.34	
Total	28284.32	84	336.72	Total SD	18.35	

Mass NO_x, g/mile

Between	6.67	3	2.22	F	1.62	Grand mean: 0.24
Within	111.06	81	1.37	Within SD	1.17	
Total	117.74	84	1.40	Total SD	1.18	

Mass NO_x corr., g/mile

Between	8.21	3	2.74	F	2.18	Grand mean: 0.44
Within	101.72	81	1.26	Within SD	1.12	
Total	109.93	84	1.31	Total SD	1.14	

F 5% 2.72 1% 4.03

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between cities for same make — Chevrolet

4-cities

Mass HC, g/mile

	Sum of Squares	DF	Mean Square	Non-scaled units	
Between	17.46	3	5.82	F 0.21	Grand mean: 1.40
Within	2187.39	78	28.04	Within SD 5.30	
Total	2204.84	81	27.22	Total SD 5.22	

F 5% 2.72 1% 4.05

Mass CO, g/mile

Between	21837.52	3	7279.17	F 14.68**	Grand mean: -9.61
Within	38669.33	78	495.76	Within SD 22.27	
Total	60506.85	81	747.00	Total SD 27.33	

F 5% 2.72 1% 4.05

Mass NO_x, g/mile

Between	5.39	3	1.80	F 1.89	Grand mean: 0.41
Within	73.07	77	0.95	Within SD 0.97	
Total	78.47	80	0.98	Total SD 0.99	

F 5% 2.72 1% 4.05

Mass NO_x corr., g/mile

Between	4.83	3	1.61	F 1.96	Grand mean: 0.56
Within	63.10	77	0.82	Within SD 0.91	
Total	67.92	80	0.85	Total SD 0.92	

F 5% 2.72 1% 4.05

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between cities for same make — Pontiac

LA, Detroit, Denver

Mass HC, g/mile

	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	0.01	2	0.01	F	0.01	Grand mean: 0.47
Within	6.29	10	0.63	Within SD	0.79	
Total	6.30	12	0.53	Total SD	0.72	

Mass CO, g/mile

Between	1219.11	2	609.56	F	0.71	Grand mean: -4.82
Within	8571.40	10	857.14	Within SD	29.28	
Total	9790.52	12	815.88	Total SD	28.56	

Mass NO_x, g/mile

Between	0.25	2	0.12	F	0.42	Grand mean: -0.08
Within	2.91	10	0.29	Within SD	0.54	
Total	3.16	12	0.26	Total SD	0.51	

Mass NO_x corr., g/mile

Between	0.16	2	0.08	F	0.24	Grand mean: 0.14
Within	3.25	10	0.32	Within SD	0.57	
Total	3.40	12	0.28	Total SD	0.53	

F 5% 4.10 1% 7.56

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between cities for same make — Oldsmobile

- 4 - cities

Mass HC, g/mile

	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	12.66	3	4.22	F	3.44 *	Grand mean: 0.50
Within	17.16	14	1.23	Within SD	1.11	
Total	29.82	17	1.75	Total SD	1.32	

Mass CO, g/mile

Between	5195.71	3	1731.90	F	12.97 **	Grand mean: -10.35
Within	1869.99	14	133.57	Within SD	11.56	
Total	7065.70	17	415.63	Total SD	20.39	

The four means are: H -0.11, LA -0.22
Det +6.66, De-v -34.13

Mass NO_x, g/mile

Between	2.18	3	0.73	F	0.54	Grand mean: 0.99
Within	18.79	14	1.34	Within SD	1.16	
Total	20.97	17	1.23	Total SD	1.11	

Mass NO_x corr., g/mile

Between	0.50	3	0.17	F	0.11	Grand mean: 1.21
Within	20.40	14	1.46	Within SD	1.21	
Total	20.90	17	1.23	Total SD	1.11	

F 5% 3.34 1% 5.56

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between cities for same make — Buick

4 cities

Mass HC, g/mile

	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	1.99	3	0.66	F	3.57	Grand mean: 0.53
Within	24.55	21	1.17	Within SD	1.08	
Total	26.54	24	1.11	Total SD	1.05	

Mass CO, g/mile

Between	3932.33	3	1310.78	F	4.35 *	Grand mean: -2.10
Within	6331.48	21	301.50	Within SD	17.36	
Total	10263.81	24	427.66	Total SD	20.68	

Mass NO_x, g/mile

Between	2.55	3	0.85	F	3.50 *	Grand mean: 0.06
Within	5.11	21	0.24	Within SD	0.49	
Total	7.66	24	0.32	Total SD	0.57	

Mass NO_x corr., g/mile

Between	2.45	3	0.82	F	4.23 *	Grand mean: 0.20
Within	4.06	21	0.19	Within SD	0.44	
Total	6.51	24	0.27	Total SD	0.52	

F 5% 3.05 1% to 87

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between cities for same make — Cadillac

Houston, LA, Denver

Mass HC, g/mile

	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	0.04	2	0.02	F	0.39	Grand mean: 0.30
Within	0.16	3	0.05	Within SD	0.23	
Total	0.21	5	0.04	Total SD	0.20	

Mass CO, g/mile

Between	76.05	2	38.02	F	0.25	Grand mean: -1.64
Within	461.84	3	153.95	Within SD	12.41	
Total	537.88	5	107.58	Total SD	10.37	

Mass NO_x, g/mile

Between	1.47	2	0.74	F	1.40	Grand mean: 0.38
Within	1.58	3	0.53	Within SD	0.73	
Total	3.05	5	0.61	Total SD	0.78	

Mass NO_x corr., g/mile

Between	1.49	2	0.74	F	1.88	Grand mean: 0.58
Within	1.19	3	0.40	Within SD	0.63	
Total	2.68	5	0.54	Total SD	0.73	

F 5% 9.55 1% 30.82

very scanty data — 6 cars

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between cities for same make – GMC

Mass HC, g/mile

	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	8.93	3	2.98	F	0.18	Grand mean: 1.01
Within	2290.13	140	16.36	Within SD	4.04	
Total	2299.06	143	16.08	Total SD	4.01	

Mass CO, g/mile

Between	30058.86	3	10019.62	F	23.51 **	Grand mean: -7.63
Within	59655.08	140	426.11	Within SD	20.64	
Total	89713.94	143	627.37	Total SD	25.05	

Mass NO_x, g/mile

Between	3.48	3	1.16	F	1.33	Grand mean: 0.37
Within	121.64	139	0.88	Within SD	0.94	
Total	125.12	142	0.88	Total SD	0.94	

Mass NO_x corr., g/mile

Between	4.70	3	1.57	F	1.97	Grand mean: 0.54
Within	110.83	139	0.80	Within SD	0.89	
Total	115.53	142	0.81	Total SD	0.90	

F 5% 2.67 1% 3.92

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between cities for same make — Volkswagen

Houston, LA, Denver

Mass HC, g/mile

	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	2.31	2	1.15	F	3.43 *	Grand mean:
Within	13.46	40	.34	Within SD	.58	
Total	15.77	42	.38	Total SD	.61	.17

Mass CO, g/mile

Between	3216.84	2	1608.42	F	13.59 **	Grand mean:
Within	4734.75	40	118.37	Within SD	10.88	
Total	7951.59	42	189.32	Total SD	13.76	-2.63

Mass NO_x, g/mile

Between	3.93	2	1.97	F	3.75 *	Grand mean:
Within	21.00	40	.52	Within SD	.72	
Total	24.93	42	0.59	Total SD	0.77	-0.01

Mass NO_x corr., g/mile

Between	2.87	2	1.44	F	2.59	Grand mean:
Within	22.15	40	.55	Within SD	0.74	
Total	25.02	42	.60	Total SD	0.77	0.11

F 5% 3.23 1% 5.18

;80<

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between cities for all vehicles

including Denver

Mass HC, g/mile

	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	16.76	3	5.59	F	0.80	Grand
Within	2541.48	365	6.96	Within SD	2.64	mean:
Total	2558.25	368	6.95	Total SD	2.64	0.60

Mass CO, g/mile

Between	51161.07	3	17053.69	F	38.90**	Grand
Within	160013.27	365	438.39	Within SD	20.94	mean:
Total	211174.34	368	573.84	Total SD	23.96	-4.11

Mass NO_x, g/mile

Between	11.38	3	3.79	F	3.25*	Grand
Within	424.71	364	1.17	Within SD	1.08	mean:
Total	436.08	367	1.19	Total SD	1.09	0.32

Mass NO_x corr., g/mile

Between	20.36	3	6.79	F	6.46**	Grand
Within	382.21	364	1.05	Within SD	1.02	mean:
Total	402.57	367	1.10	Total SD	1.05	0.48

F 5% 2.63 1% 3.84

SECTION D-3.4

Between All Cities (Excluding Denver)
For The Same Make

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between Cities (excluding Denver) for same make – AMC

Mass HC, g/mile

Cities	Sum of Squares	Df	Mean Square	Non-scaled units	
Between	0.17	1	0.17	F 0.35	Grand mean: 0.47
Within	7.19	15	0.48	Within SD 0.69	
Total	7.36	16	0.46	Total SD 0.69	

Mass CO, g/mile

Between	1709.40	1	1709.40	F 7.75*	Grand mean: 3.90
Within	3308.57	15	220.57	Within SD 14.85	
Total	5017.97	16	313.62	Total SD 17.71	

Mass NO_x, g/mile

Between	1.52	1	1.52	F 0.89	Grand mean: 0.95
Within	25.68	15	1.71	Within SD 1.31	
Total	27.20	16	1.70	Total SD 1.30	

Mass NO_x corrected, g/mile

Between	5.03	1	5.03	F 3.83	Grand mean: 1.15
Within	19.72	15	1.31	Within SD 1.15	
Total	24.75	16	1.55	Total SD 1.24	

F 5% 4.54 1% 8.68

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between Cities (excluding Denver) for same make — Chrysler

Mass HC, g/mile

	Sum of Squares	DF	Mean Square	Non-scaled units	
Between	7.51	2	3.76	F 2.98	Grand mean: 0.37
Within	49.08	39	1.26	Within SD 1.12	
Total	56.60	41	1.38	Total SD 1.17	

Mass CO, g/mile

Between	1103.26	2	551.63	F 0,58	Grand mean: 5.15
Within	36984.34	39	948.32	Within SD 30.79	
Total	38087.59	41	928.97	Total SD 30.48	

Mass NO_x, g/mile

Between	4.24	2	2.12	F 1.12	Grand mean: 0.54
Within	73.80	39	1.89	Within SD 1.38	
Total	78.05	41	1.90	Total SD 1.38	

Mass NO_x corrected, g/mile

Between	6.64	2	3.32	F 2.00	Grand mean: 0.63
Within	64.81	39	1.66	Within SD 1.29	
Total	71.45	41	1.74	Total SD 1.32	

F 5% 3.23 1% 5.19

3.402

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between Cities (excluding Denver) for same make — Ford

Mass HC, g/mile

	Sum of Squares	Df	Mean Square	Non-scaled units	
Between	12.35	2	6.18	F 9.18 **	Grand mean:
Within	37.68	56	0.67	Within SD 0.82	
Total	50.03	58	0.86	Total SD 0.93	0.63

Mass CO, g/mile

Between	1608.16	2	804.08	F 3.08	Grand mean:
Within	14617.27	56	261.02	Within SD 16.16	
Total	16225.43	58	279.75	Total SD 16.73	7.30

Mass NO_x, g/mile

Between	5.26	2	2.63	F 2.37	Grand mean:
Within	62.06	56	1.11	Within SD 1.05	
Total	67.32	58	1.16	Total SD 1.07	0.33

Mass NO_x corrected, g/mile

Between	6.49	2	3.25	F 2.93	Grand mean:
Within	62.03	56	1.11	Within SD 1.05	
Total	68.52	58	1.18	Total SD 1.09	0.54

F 5% 3.17 1% 5.00

Difference between Stabilized and Great Engine

Phase 2 minus Phase 1

Between Cities (excluding Denver) ~~for~~ same make — Chevrolet

Mass HC, g/mile

	Sum of Squares	DF	Mean Square	Non-scaled units	
Between	2.87	2	1.43	F 0.63	Grand mean:
Within	101.70	45	2.26	Within SD 1.50	
Total	104.57	47	2.22	Total SD 1.49	1.04

Mass CO, g/mile

Between	799.66	2	399.83	F 1.46	Grand mean:
Within	12351.91	45	274.49	Within SD 16.57	
Total	13151.58	47	279.82	Total SD 16.73	3.87

Mass NO_x, g/mile

Between	4.12	2	2.06	F 2.34	Grand mean:
Within	38.74	44	0.88	Within SD 0.94	
Total	42.86	46	0.93	Total SD 0.97	0.51

Mass NO_x corrected, g/mile

Between	3.95	2	1.97	F 2.43	Grand mean:
Within	35.77	44	0.81	Within SD 0.90	
Total	39.72	46	0.86	Total SD 0.93	0.65

5% 3.21 +5% 5.15

3.404

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between Cities (excluding Denver) ~~for~~ same make — LA, Detroit Pontiac

Mass HC, g/mile

	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	0.01	1	0.01	F	0.01	Grand mean: 0.49
Within	4.21	6	0.70	Within SD	0.84	
Total	4.22	7	0.60	Total SD	0.78	

Mass CO, g/mile

Between	45.21	1	45.21	F	0.03	Grand mean: 2.69
Within	8496.75	6	1416.13	Within SD	37.63	
Total	8541.96	7	122028	Total SD	34.93	

Mass NO_x, g/mile

Between	0.04	1	0.04	F	0.10	Grand mean: -0.18
Within	2.24	6	0.37	Within SD	0.61	
Total	2.28	7	0.33	Total SD	0.57	

Mass NO_x corrected, g/mile

Between	0.10	1	0.10	F	0.21	Grand mean: 0.09
Within	2.89	6	0.48	Within SD	0.69	
Total	2.99	7	0.43	Total SD	0.65	

F 5% 5.99 1% 13.74

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between Cities (excluding Denver) for same make — Oldsmobile

Mass HC, g/mile

	Sum of Squares	Df	Mean Square	Non-scaled units		
Between	7.57	2	3.78	F	2.24	Grand mean: 0.88
Within	15.23	9	1.69	Within SD	1.30	
Total	22.80	11	2.07	Total SD	1.44	

Mass CO, g/mile

Between	104.65	2	52.32	F	0.84	Grand mean: 1.55
Within	561.03	9	62.32	Within SD	7.90	
Total	665.68	11	60.52	Total SD	7.78	

Mass NO_x, g/mile

Between	1.82	2	0.91	F	0.48	Grand mean: 0.89
Within	17.16	9	1.91	Within SD	1.38	
Total	18.98	11	1.73	Total SD	1.31	

Mass NO_x corrected, g/mile

Between	0.39	2	0.19	F	0.09	Grand mean: 1.15
Within	18.78	9	2.09	Within SD	1.44	
Total	19.17	11	1.74	Total SD	1.32	

F 5% 4.26 1% 8.02

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between Cities (excluding Denver) ~~for~~ same make — Buick

Mass HC, g/mile

	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	0.07	2	0.03	F	0.03	Grand mean: 0.74
Within	14.16	13	1.09	Within SD	1.04	
Total	14.22	15	0.95	Total SD	0.97	

Mass CO, g/mile

Between	155.24	2	77.62	F	0.32	Grand mean: 7.12
Within	3105.83	13	238.91	Within SD	15.46	
Total	3261.07	15	217.40	Total SD	14.74	

Mass NO_x, g/mile

Between	1.30	2	0.65	F	4.15*	Grand mean: 0.23
Within	2.04	13	0.16	Within SD	0.40	
Total	3.34	15	0.22	Total SD	0.47	

Mass NO_x corrected, g/mile

Between	0.82	2	0.41	F	2.94	Grand mean: 0.39
Within	1.81	13	0.14	Within SD	0.37	
Total	2.63	15	0.18	Total SD	0.42	

5% 3.80 1% 6.70

3.407

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between Cities (excluding Denver) ~~for~~ same make —
Houston, LA Cadillac

Mass HC, g/mile

	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	0.00	1	0.00	F	0.04	Grand mean: 0.21
Within	0.01	1	0.01	Within SD	0.08	
Total	0.01	~	0.00	Total SD	0.06	

Mass CO, g/mile

Between	30.29	1	30.29	F	0.53	Grand mean: 1.12
Within	56.85	1	56.85	Within SD	7.54	
Total	.87 14	~	43.57	Total SD	6.60	

Mass NO_x, g/mile

Between	0.02	1	0.02	F	0.06	Grand mean: 0.87
Within	0.42	1	0.42	Within SD	0.65	
Total	0.45	~	0.22	Total SD	0.47	

Mass NO_x corrected, g/mile

Between	0.05	1	0.05	F	0.40	Grand mean: 1.07
Within	0.12	1	0.12	Within SD	0.35	
Total	0.17	~	0.09	Total SD	0.29	

F 5% 161.4 1% 405 ~

— 3 CARS ONLY —

255

3.408

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between Cities (excluding Denver) for same make —

General Motors

Mass HC, g/mile

	Sum of Sqmn	DF	Mean Square	Non-scaled units		
Between	5.72	2	2.86	F	1.66	Grand mean: 0.88
Within	144.42	84	1.72	Within SD	1.31	
Total	150.14	86	1.75	Total SD	1.32	

Mass CO, g/mile

Between	598.90	2	299.45	F	0.99	Grand mean: 3.95
Within	25379.30	84	302.13	Within SD	17.38	
Total	25978.20	86	302.07	Total SD	17.38	

Mass NO_x, g/mile

Between	1.84	2	0.92	F	1.04	Grand mean: 0.46
Within	73.20	83	0.88	Within SD	0.94	
Total	75.04	85	0.88	Total SD	0.94	

Mass NO_x corrected, g/mile

Between	2.84	2	1.42	F	1.70	Grand mean: 0.63
Within	69.41	83	0.84	Within SD	0.91	
Total	72.25	85	0.85	Total SD	0.92	

F 5% 3.11 1% 4.88

Difference between Stabilized and Green Engine

Phase 2 minus Phase 1

Between Cities (excluding Denver) for same make —
Houston, LA Volkswagen

Mass HC, g/mile

	Sum of Sqmn	DF	Mean Square	Non-scaled units		
Between	0.42	1	0.42	F	1.10	Grand
Within	6.81	18	0.38	Within SD	0.62	mean:
Total	7.22	19	0.38	Total SD	0.62	0.39

Mass CO, g/mile

Between	63.44	1	63.44	F	0.73	Grand
Within	1566.75	18	87.04	Within SD	9.33	mean:
Total	1630.19	19	85.80	Total SD	9.26	6.55

Mass NO_x, g/mile

Between	0.51	1	0.51	F	1.67	Grand
Within	5.48	18	0.30	Within SD	0.55	mean:
Total	5.98	19	0.31	Total SD	0.56	−0.32

Mass NO_x corrected, g/mile

Between	1.05	1	1.05	F	3.21	Grand
Within	5.88	18	0.33	Within SD	0.57	mean:
Total	6.93	19	0.36	Total SD	0.60	−0.11

F 5% 4.41 1% 8.28

3.410

Difference between Stabilized and Green Engine

Phase 2 - Phase 1

Between Cities (excluding Denver) for same make - All vehicles

Mass HC, g/mile

Cities	Sum of Squares	DF	Mean Square	Non-scaled units		
Between	15.56	2	7.78	F	6.51 **	Grand mean: 0.65
Within	264.91	222	1.19	Within SD	1.09	
Total	280.46	224	1.25	Total SD	1.12	

Mass CO, g/mile

Between	379.77	2	189.88	F	0.48	Grand mean: 5.28
Within	87039.21	222	392.07	Within SD	19.80	
Total	87418.98	224	390.26	Total SD	19.76	

Mass NO_x, g/mile

Between	6.39	2	3.19	F	2.67	Grand mean: 0.41
Within	264.03	221	1.19	Within SD	1.09	
Total	270.42	223	1.21	Total SD	1.10	

Mass NO_x corrected, g/mile

Between	14.91	2	7.46	F	6.73 **	Grand mean: 0.57
Within	244.88	221	1.11	Within SD	1.05	
Total	259.79	223	1.16	Total SD	1.08	

F 5% 3.03 1% 4.70

SECTION D-4

Car to Car Variability

SECTION D-4.1

Phase I (Green Engine)

Car-to-Car Variability

Green Engine (Phase 1) HC, g/mile

City	Sum of Squares	Df	Mean Sq.	Std. Dev
Houston	10.01	57	0.18	0.42
Los Angeles	60.06	103	0.58	0.76
Detroit	9.83	42	0.23	0.48
Denver	112.44	135	0.83	0.91
Including Denver	192.34	337	0.57	0.76
Excluding Denver	79.90	202	0.40	0.63

Make	Including Denver				Excluding Denver			
	Sum of Squares	Df	Mean Sq.	Std. Dev.	Sum of Squares	Df	Mean Sq.	Std. Dev
AMC	34.68	34	1.02	1.01	4.03	15	0.27	0.52
Chry	65.28	56	1.17	1.08	48.28	39	1.24	1.11
Ford	43.30	81	0.53	0.73	9.66	56	0.17	0.42
Chev	22.11	78	0.28	0.53	12.12	45	0.27	0.52
Pont	1.00	10	0.10	0.32	0.89	6	0.15	0.38
olds	4.58	14	0.33	0.57	0.44	9	0.05	0.22
Buick	8.36	21	0.40	0.63	0.52	13	0.04	0.20
Cad	0.08	3	0.03	0.16	0.01	1	0.01	0.11
VW	12.97	40	0.32	0.57	3.96	18	0.22	0.47
All	192.36	337	0.58	0.76	79.91	202	0.40	0.63

Based on pooled standard deviations for tests in the same city on the same make.

Car-to-Car Variability

Green Engine (Phase 1) CO, g/mile

City	Sum of Squares	Df	Mean Sq.	Std. Dev
Houston	8806	57	154	12.43
Los Angeles	13234	103	128	11.33
Detroit	8296	42	198	14.05
Denver	80698	135	598	24.45
Including Denver	111034	337	329	18.15
Excluding Denver	30336	202	150	12.25

Make	Including Denver				Excluding Denver			
	Sum of Squares	Df	Mean Sq.	Std. Dev.	Sum of Squares	Df	Mean Sq.	Std. Dev
AMC	31527	34	927	30.45	2018	15	135	11.60
Chry	23616	56	422	20.54	10947	39	281	16.75
Ford	10934	81	135	11.62	7108	56	127	11.27
Chev	26167	78	335	18.32	4911	45	109	10.45
Pont	2973	10	297	17.24	2038	6	340	18.43
Olds	1551	14	111	10.53	120	9	13	3.65
Buick	7806	21	372	19.28	778	13	60	7.73
Cad	278	3	93	9.63	9	1	9	2.98
VW	6180	40	155	12.43	2399	18	133	11.54
All	111032	337	329	18.15	30328	202	150	12.25

Based on pooled standard deviations for tests in the same city on the same make.

Car-to-Car Variability

Green Engine (Phase 1) NO_x g/mile

City	Sum of Squares	Df	Mean Sq.	Std. Dev
Houston	80.29	57	1.41	1.19
Los Angeles	73.31	103	0.71	0.84
Detroit	58 48	42	1.39	1.18
Denver	245.85	135	1.82	1.35
Including Denver	457.93	337	1.36	1.17
Excluding Denver	212.08	202	1.05	1.02

Make	Including Denver				Excluding Denver			
	Sum of Squares	Df	Mean Sq.	Std. Dev.	Sum of Squares	Df	Mean Sq.	Std. Dev
AMC	76.54	34	2.25	1.50	14.29	15	0.95	0.98
Chry	113.24	56	2.02	1.42	72.93	39	1.87	1.37
Ford	170.03	81	2.10	1.45	81.67	56	1.46	1.21
Chev	53.58	78	0.69	0.83	25.65	45	0.57	0.75
Pont	2.54	10	0.25	0.50	1.46	6	0.24	0.49
olds	3.28	14	0.23	0.48	0.54	9	0 06	0.25
Buick	11.03	21	0.53	0.72	2.38	13	0.18	0.43
Cad	1.49	3	0.50	0.70	0.01	1	0.01	0.09
VW	26.19	40	0.65	0.81	13.15	18	0.73	0.85
All	457.92	337	1.36	1.17	212.08	202	1.05	1.02

Based on pooled standard deviations for tests in the same city on the same make.

2.3<

Car-to-Car Variability

Green Engine (Phase 1) NO_x corr. g/mile

City	Sum of Squares	Df	Mean Sq.	Std. Dev
Houston	83.28	57	1.46	1.21
Los Angeles	66.09	103	0.64	0.80
Detroit	46.81	42	1.11	1.06
Denver	197.39	135	1.46	1.21
Including Denver	393.57	337	1.17	1.08
Excluding Denver	196.18	202	0.97	0.99

Make	Including Denver				Excluding Denver			
	Sum of Squares	Df	Mean Sq.	Std Dev.	Sum of Squares	Df	Mean Sq.	Std. Dev
AMC	65.72	34	1.93	1.39	15.24	15	1.02	1.01
Chry	95.92	56	1.71	1.31	64.47	39	1.65	1.29
Ford	147.15	81	1.82	1.35	77.00	56	1.38	1.17
Chev	44.49	78	0.57	0.76	22.31	45	0.50	0.70
Pont	2.12	10	0.21	0.46	1.27	6	0.21	0.46
Olds	2.79	14	0.20	0.45	0.48	9	0.05	0.23
Buick	8.58	21	0.41	0.64	2.38	13	0.18	0.43
Cad	1.16	3	0.39	0.62	0.00	1	0.00	0.02
VW	25.65	40	0.64	0.80	12.60	18	0.70	0.84
All	393.58	337	1.18	1.08	197.75	202	0.98	0.99

Based on pooled standard deviations for tests in the same city on the same make.

SECTION D-4.2

Phase II (Stabilized Engine)

Car-to-Car Variability

Stabilized Engine (Phase 2) HC, g/mile

City	Sum of Squares	Df	Mean Sq.	Std. Dev
Houston	39.16	57	0.69	0.83
Los Angeles	140.10	103	1.36	1.17
Detroit	66.25	42	1.58	1.26
Denver	2208.35	135	16.36	4.04
Including Denver	2453.86	337	7.28	2.70
Excluding Denver	245.51	202	1.22	1.10

Make	Including Denver				Excluding Denver			
	Sum of Squares	Df	Mean Sq.	Std. Dev.	Sum of Squares	Df	Mean Sq.	Std. Dev
AMC	29.26	34	0.71	0.84	3.31	15	0.22	0.47
Chry	29.71	56	0.53	0.73	21.14	39	0.54	0.74
Ford	51.36	81	0.63	0.80	36.15	56	0.65	0.80
Chev	2290.54	78	29.37	5.42	146.74	45	3.26	1.81
Pont	4.10	10	0.41	0.64	2.51	6	0.42	0.65
olds	16.81	14	1.20	1.10	14.63	9	1.63	1.27
Buick	19.71	21	0.94	0.97	13.37	13	1.03	1.01
Cad	0.46	3	0.15	0.39	0.04	1	0.04	0.19
VW	16.91	40	0.42	0.65	7.62	18	0.42	0.65
All	2453.86	337	7.28	2.70	245.51	202	1.22	1.10

Based on pooled standard deviations for tests in the same city on the same make.

30%<

Car-to-Car Variability

Stabilized Engine (Phase 2) CO, g/mile

City	Sum of Squares	Df	Mean Sq.	Std. Dev
Houston	21388	57	375	19.37
Los Angeles	31660	103	307	17.53
Detroit	15392	42	366	19.14
Denver	57678	135	427	20.67
Including Denver	126118	337	374	19.35
Excluding Denver	68440	202	339	18.41

Make	Including Denver				Excluding Denver			
	Sum of Squares	Df	Mean Sq.	Std Dev.	Sum of Squares	Df	Mean Sq.	Std. Dev
AMC	31531	34	927	30.45	2498	15	167	12.91
Chry	32430	56	579	24.06	25514	39	654	25.55
Ford	18415	81	227	15.08	14731	56	263	16.22
Chev	23138	78	297	17.22	12387	45	275	16.59
Pont	7552	10	755	27.48	6435	6	1073	32.75
olds	930	14	66.40	8.15	618	9	69	8.28
Buick	4057	21	193	13.90	2382	13	183	13.54
Cad	105	3	35.04	5.92	21	1	21	4.57
VW	7960	40	199	14.11	3855	18	214	14.63
All	126118	337	374	19.35	68441	202	339	18.41

Based on pooled standard deviations for tests in the same city on the same make.

2.18<

Car-to-Car Variability

Stabilized Engine (Phase 2) NO_x g/mile

City	Sum of Squares	Df	Mean Sq.	Std. Dev
Houston	138.39	56	2.47	1.57
Los Angeles	157.65	103	1.53	1.24
Detroit	72.42	42	1.72	1.31
Denver	200.02	135	1.48	1.22
Including Denver	568.48	336	1.69	1.30
Excluding Denver	368.46	201	1.83	1.35

Make	Including Denver				Excluding Denver			
	Sum of Squares	Df	Mean Sq.	Std Dev.	Sum of Squares	Df	Mean Sq.	Std. Dev.
AMC	71.12	34	2.09	1.45	30.06	15	2.00	1.42
Chrg	150.93	56	2.70	1.64	112.17	39	2.88	1.70
Ford	207.34	81	2.56	1.60	137.62	56	2.46	1.57
Chev	66.79	77	0.87	0.93	47.23	44	1.07	1.04
Pont	3.45	10	0.35	0.59	2.93	6	0.49	0.70
Olds	19.24	14	1.37	1.17	15.96	9	1.77	1.33
Buick	7.88	21	0.38	0.61	3.38	13	0.26	0.51
Cad	0.48	3	0.16	0.40	0.31	1	0.31	0.56
VW	41.23	40	1.03	1.02	18.79	18	1.04	1.02
All	568.46	336	1.69	1.30	368.45	201	1.83	1.35

Based on pooled standard deviations for tests in the same city on the same make.

4.23

Car-to-Car Variability

Stabilized Engine (Phase 2) NO_x corr. g/mile

City	Sum of Squares	Df	Mean Sq.	Std. Dev
Houston	159.79	56	2.85	1.69
Los Angeles	138.31	103	1.34	1.16
Detroit	67.19	42	1.60	1.26
Denver	188.24	135	1.39	1.18
Including Denver	553.53	336	1.65	1.28
Excluding Denver	365.29	201	1.82	1.35

Make	Including Denver				Excluding Denver			
	Sum of Squares	Df	Mean Sq.	Std. Dev.	Sum of Squares	Df	Mean Sq.	Std. Dev
AMC	76.30	34	2.24	1.50	29.47	15	1.96	1.40
Chry	139.16	56	2.48	1.58	104.88	39	2.69	1.64
Ford	206.32	81	2.55	1.60	145.48	56	2.60	1.61
Chev	62.50	77	0.81	0.90	42.94	44	0.98	0.99
Pont	3.44	10	0.34	0.59	3.23	6	0.54	0.73
olds	19.40	14	1.39	1.18	17.16	9	1.91	1.38
Buick	6.25	21	0.30	0.55	2.76	13	0.21	0.46
Cad	0.22	3	0.07	0.27	0.14	1	0.14	0.37
VW	89.93	40	1.00	1.00	19.23	18	1.07	1.03
All	553.52	336	1.65	1.28	365.29	201	1.82	1.35

Based on pooled standard deviations for tests in the same city on the same make.

APPENDIX E

VEHICLE KEY MODE DATA

1. Legend and Interpretation of Vehicle KEY MODE Data Tables.

2. Tables:

E-1 Houston

E-2 Los Angeles

E-3 Detroit

E-4 Denver

LEGEND AND INTERPRETATION OF VEHICLE KEY MODE DATA TABLES

Key Words	Description
CAR NO	This is the number used to identify each vehicle and the location where test was conducted. The first number denotes the location. 2 = Houston, Texas 3 = Los Angeles, California 4 = Detroit, Michigan 5 = Denver, Colorado The last five numbers denote the identification number for each vehicle.
RUN NO	This is a sequential number assigned to each test. The first number denotes the phase of testing for all cities. 1 = Phase I, 2 = Phase II.
KEY MODE DATA	Clayton KEY MODE emission results at idle, low cruise, and high cruise in parts per million (volume) for hydrocarbons and nitrogen oxides, and in percent (volume) for carbon monoxide and carbon dioxide.
MPH	Actual dynamometer speed in miles per hour of the low and high KEY MODE cruises.
EVAP COMMENT	Indicates results of pressure check on vehicle fuel tank. First number is the "as pressurized" condition (In inches of H_2O). Second number is the indicated pressure after two or three minutes. A single number indicates the final pressure. (The initial pressure is assumed to be 14 inches).
IRPM	Engine idle speed in revolutions per minute.
BT	Basic ignition timing in degrees of crankshaft rotation before or after top dead center. Retarded (after) timing is indicated by a "-" sign.
DWL	Measure of the time that ignition points are closed in degrees of distributor cam rotation.

TABLE E-1

Houston

HOUSTON

1971 VEHICLE KEYMODE DATA

CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	DWL
210007	100957	81	1.21	12.02	106	98	0.54	13.04	1263	31	63	0.19	13.03	2651	45	EVAP 14 IN	825N	TO.C	56.0
	202246	51	0.19	13.60	69	127	0.18	14.11	1454	33	91	0.15	13.85	2942	46	EVAP 12 IN	700N	3.0	34.0
	202246	51	0.13	13.28	53	129	0.13	14.04	1712	32	89	0.14	13.76	2988	46		700N	3.0	34.0
210016	100964	169	0.35	12.86	201	86	0.09	11.70	1528	32	59	0.11	11.65	1944	46	EVAP 14 IN	650D	10.0	45.0
	201451	261	3.73	9.61	57	128	0.10	10.07	1204	32	79	0.11	9.31	813	46	EVAP 14 IN	500D	9.0	48.0
	201451	170	1.33	14.19	66	107	0.09	13.33	813	32	61	0.13	12.61	611	47		500D	9.0	48.0
210089	101036	60	0.19	12.47	77	109	0.34	13.96	1441	32	84	0.21	14.01	2407	46	NO EVAP TEST	800N	-2.0	44.0
	202122	51	0.37	13.95	91	175	0.31	14.17	2076	32	104	0.16	13.90	3293	46	EVAP 14 IN	850N	3.0	33.0
	202122	69	0.49	13.83	87	167	0.31	14.27	1701	33	121	0.20	14.13	3201	46		700N	3.0	33.0
210157	101169	158	0.88	13.63	727	99	0.09	14.00	1605	33	99	1.24	13.96	1564	46	EVAP 14 IN	525D	-10.0	36.0
	202158	226	4.81	11.49	84	108	0.08	13.61	2419	30	76	0.09	13.50	3723	45	EVAP 14 IN	625D	16.0	31.0
	202158	92	0.63	13.70	168	74	0.09	13.36	1202	30	53	0.10	13.26	2328	45		600D	5.0	31.0
210162	101177	155	1.42	14.19	165	105	0.19	15.62	1751	32	64	0.10	14.34	2521	46	EVAP 14-13 IN	625D	4.0	28.0
	202238	105	0.10	13.41	138	141	0.12	13.24	1268	32	96	0.13	12.87	2028	46	EVAP 13 IN	625D	5.0	32.0
	202238	95	0.09	13.50	152	138	0.11	13.34	1586	32	78	0.13	12.75	1898	46		625D	5.0	32.0
210265	101497	216	3.81	12.29	67	190	1.69	13.66	1345	32	144	0.42	14.27	3073	46	EVAP 14 IN	550D	6.0	38.0
	201946	217	3.99	12.09	79	181	1.28	13.73	1257	32	129	0.36	14.03	3196	46	NO EVAP TEST	550D	10.0	33.0
	201946	113	0.15	14.27	139	151	0.53	14.41	1323	32	114	0.21	14.26	3152	47		600D	5.0	33.0
210266	101498	188	3.41	12.49	81	151	0.75	14.32	1707	32	111	0.12	14.34	3399	46	EVAP 14 IN	600D	8.0	34.0
	201948	234	4.67	11.78	80	159	0.13	14.21	2150	32	128	0.13	13.93	3431	45	NO EVAP TEST	600D	15.0	31.0
	201948	88	0.25	14.17	123	138	0.48	14.26	1269	32	93	0.11	13.89	2738	46		600D	5.0	31.0
210034	100987	121	2.92	12.53	122	124	0.90	13.72	1890	35	111	0.67	13.76	3274	49	EVAP 14-13 IN	675D	5.0	28.0
	202250	167	0.12	13.28	122	153	0.28	13.55	2340	35	143	0.38	13.71	3898	50	EVAP 14 IN	650D	4.0	30.0
	202250	185	0.13	13.23	94	156	0.24	13.89	2605	35	142	0.35	14.09	4004	50		650D	3.0	30.0
210042	100995	211	3.24	13.30	98	150	0.31	14.39	2234	35	147	0.60	14.68	3460	49	EVAP 14 IN	650D	-5.0	29.0
	202141	182	3.42	12.33	88	162	0.24	13.61	2444	35	148	0.35	13.64	3778	50	EVAP 14 IN	600D	3.0	30.0
	202141	111	0.41	13.66	126	172	0.28	13.43	2992	35	138	0.17	13.69	4143	50		600D	3.0	30.0
210002	100950	117	0.20	12.03	86	111	0.63	13.30	1720	33	102	1.89	13.22	2407	45	EVAP 14.0 IN	550D	-1.1	43.0
	202109	55	0.12	10.69	35	93	0.26	13.09	1836	32	96	1.07	13.28	3006	46	EVAP 14 IN	700D	0.0	45.0
	202109	76	0.77	13.50	85	88	0.14	13.48	1794	32	73	0.47	13.51	1832	46		750D	0.0	45.0
210084	101040	201	4.61	10.66	62	130	0.87	13.74	2564	32	104	1.33	13.55	3107	46	EVAP 14 IN	575D	4.0	41.0
	202199	219	4.13	10.71	121	152	0.74	13.22	2539	32	121	0.85	13.21	3706	46	EVAP 13 IN	750D	1.0	46.0
	202199	91	0.23	12.73	242	108	0.25	13.53	2686	32	104	0.62	13.68	3731	46		750D	1.0	46.0
210092	101050	167	4.16	11.06	88	109	0.73	13.65	2742	32	99	1.90	13.42	3270	46	EVAP 14 IN	550D	-5.0	45.0
	201994	207	6.08	10.61	74	126	0.41	13.90	2154	32	103	0.96	13.65	3566	46	EVAP 14 IN	800D	5.0	43.0
	201994	99	0.71	13.49	147	106	0.35	13.98	1938	32	94	0.59	13.88	3384	46		750D	0.0	43.0
210015	100939	96	1.84	12.91	137	79	0.11	13.54	2814	35	62	0.63	13.72	2120	49	EVAP 14 IN	650D	-2.0	35.0
	202229	266	5.82	10.77	74	147	0.12	13.17	2585	35	100	0.20	13.22	2733	50	EVAP 13 IN	800D	5.0	30.0
	202229	126	1.66	13.37	101	127	0.13	12.97	2146	34	89	0.41	14.00	2133	50		700D	0.0	30.0
210040	100993	126	2.28	12.90	102	83	0.12	13.44	1990	35	55	0.25	13.86	1900	49	EVAP 14-13 IN	625D	5.0	37.0
	202244	175	6.34	10.55	84	130	0.13	13.35	2478	35	110	0.83	13.61	2111	50	EVAP 14 IN	1000D	5.0	35.0
	202244	121	1.57	13.42	103	126	0.12	13.37	2141	35	94	0.62	13.94	2030	50		700D	0.0	35.0

HOUSTON

1971 VEHICLE KEYMODE DATA

CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	DWL
210134	101142	127	1.97	12.74	263	70	0.15	13.02	1263	35	66	0.42	13.44	2188	49	EVAP 14 IN	625D	-4.0	30.0
	202180	345	1.24	13.05	67	99	0.15	13.49	1316	34	133	1.07	14.07	2152	50	EVAP 14 IN	600D	2.0	36.0
	202180	94	1.50	13.08	91	94	0.16	12.56	1252	34	133	1.04	13.33	2234	50		700D	2.0	36.0
210053	101006	163	2.48	12.94	103	130	0.45	13.90	878	32	127	0.33	13.97	2710	46	EVAP 14-13 IN	825D	10.0	25.0
	202174	288	7.26	9.90	47	198	0.82	13.74	913	32	198	0.42	13.69	2963	45	EVAP 11 IN	800D	6.0	28.0
	202174	93	0.19	13.81	95	172	0.26	13.62	1419	35	189	0.32	13.68	2890	46		900D	6.0	28.0
210048	101001	181	2.23	11.96	68	94	0.93	13.87	995	35	71	1.02	14.14	1959	50	EVAP 14-12 IN	650D	5.0	35.0
	202242	253	6.46	9.72	53	134	2.64	12.77	671	35	85	0.74	13.66	2431	50	EVAP 14 IN	775D	4.0	30.0
	202242	158	0.64	13.37	81	74	0.30	13.73	1405	35	63	0.29	13.84	2959	49		800D	4.0	30.0
210072	101027	188	3.69	11.08	65	109	2.04	12.98	708	35	79	1.27	13.44	1656	50	EVAP 14 IN	675D	-2.0	36.0
	202152	187	4.51	11.15	52	122	1.53	13.63	1095	35	84	0.78	14.03	2500	50	EVAP 14 IN	800D	3.0	33.0
	202152	121	0.83	13.00	62	84	0.36	13.66	1648	35	75	0.64	13.76	2673	50		800D	3.0	33.0
210274	101805	420	1.66	11.98	60	78	0.25	13.68	561	35	66	0.74	13.61	968	50	EVAP 14 IN	650D	5.0	30.0
	202185	104	1.17	14.02	87	97	0.61	14.84	1462	35	102	2.39	13.26	1276	50	EVAP 14-12.5 IN	825D	4.0	33.0
	202185	119	0.52	13.16	99	75	0.22	13.65	1452	35	98	1.84	13.51	1509	50		825D	4.0	33.0
210246	101368	209	5.31	11.40	75	152	0.48	13.88	1194	25	95	0.30	13.49	1925	38	EVAP 14-12 IN	725N	2.0	40.0
	201940	1809	11.74	6.31	50	420	7.74	9.93	188	24	297	5.20	11.52	703	38	EVAP 14-12 IN	600N	10.0	43.0
	201940	365	9.80	8.73	47	254	1.28	13.70	1463	25	239	0.89	13.64	2786	38		800N	12.0	43.0
210169	101223	211	6.08	12.37	84	114	0.09	14.89	2441	32	82	0.33	15.09	2204	47	EVP AT 14-13 IN	800D	4.0	40.0
	202236	278	7.33	9.37	93	310	1.18	13.74	1460	25	191	0.21	13.63	2491	38	EVAP 13 IN	650D	6.0	45.0
	202236	145	0.99	12.45	172	221	0.15	13.38	1790	25	157	0.17	13.09	2337	39		650D	6.0	45.0
210173	101236	181	5.01	12.40	70	117	0.10	14.50	2005	25	149	1.82	14.63	2404	38	EVAP 14-13 IN	625D	2.0	46.0
	202160	308	7.36	10.33	62	198	0.13	13.37	2968	25	164	0.51	13.61	3842	38	EVAP 14 IN	650D	5.0	56.0
	202160	173	3.81	12.34	92	128	0.12	13.14	1813	25	173	1.71	13.50	2455	38		650D	6.0	46.0
210247	101369	281	9.34	9.06	45	169	1.82	13.94	793	25	101	0.24	14.11	2597	38	EVAP 14-13 IN	725N	0.0	38.0
	201938	1526	10.13	6.69	54	370	5.32	11.34	197	25	277	1.51	13.48	1308	38	EVAP 14-6 IN	500N	6.0	43.0
	201938	510	10.61	7.06	32	302	3.76	12.55	326	25	207	1.74	13.56	1342	38		750N	6.0	43.0
210279	101817	244	5.08	11.54	155	190	0.84	13.82	2146	25	173	0.71	13.80	3065	35	EVAP 14 - 13 IN	1000D	15.0	39.0
	202139	429	4.78	11.76	267	419	4.97	11.50	653	26	272	1.02	13.81	3073	38	EVAP 14 IN	700D	25.0	40.0
	202139	216	0.92	14.10	146	323	0.58	13.80	2878	24	232	0.54	13.70	4014	39		650D	6.0	40.0
210218	101295	67	0.76	10.56	134	119	0.11	12.31	2521	32	100	0.11	12.62	3362	46	EVAP 14-12 IN	675D	6.0	36.0
	202107	138	5.20	11.78	98	179	0.13	13.14	2545	33	119	0.14	12.75	3241	46	EVAP 14 IN	600D	5.0	34.0
	202107	167	2.36	13.49	188	180	0.12	12.93	2410	32	129	0.13	12.66	3345	46		600D	5.0	34.0
210174	101237	225	5.29	11.38	104	111	0.19	14.03	1021	32	117	0.13	13.73	2676	46	EVAP 14-13 IN	625D	-5.0	32.0
	202098	205	6.04	11.07	97	75	0.18	13.44	516	32	118	0.19	13.41	1887	46	EVAP 14-16 IN	650D	6.0	32.0
	202098	122	1.59	13.74	182	70	0.15	13.27	539	32	109	0.16	13.40	2228	47		600D	6.0	32.0
210175	101238	95	1.63	13.74	147	90	0.20	13.36	1136	32	98	0.15	13.21	2766	46	EVAP 14-12 IN	400D	-5.0	29.0
	202076	152	2.20	13.27	180	118	0.27	13.18	937	32	133	0.28	13.20	2453	46	EVAP 14 IN	625D	3.0	33.0
	202076	135	1.82	13.74	159	112	0.18	13.19	830	32	133	0.25	13.42	2525	46		600D	6.0	33.0
210204	101280	228	6.15	11.52	74	136	0.24	14.19	834	32	141	0.25	13.99	2006	46	EVAP 14-13 IN	550D	6.0	30.0
	202000	258	4.63	11.92	92	240	0.20	13.33	1060	32	257	0.23	13.25	2577	46	EVAP 14 IN	575D	6.0	33.0
	202000	146	0.60	14.00	193	231	0.19	13.32	1091	32	255	0.23	13.30	2794	46		600D	6.0	33.0

HOUSTON

1971 VEHICLE KEYMODE DATA

CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	DWL
210207	101283	181	0.50	14.48	203	131	0.15	13.93	1071	33	142	0.14	13.92	2548	46	EVAP 14-12 IN	575D	2.0	29.0
	202119	192	0.30	13.90	201	160	0.20	13.11	729	32	196	0.22	13.21	2189	46	EVAP 14-12 IN	600D	6.0	32.0
	202119	227	1.15	14.22	171	193	0.19	13.37	982	32	225	0.17	13.52	2609	46		600D	6.0	32.0
210208	101284	230	6.16	11.92	83	149	0.26	15.08	980	32	155	0.43	15.13	2328	46	EVAP 14 IN	650D	4.0	30.0
	202017	184	6.90	10.70	79	175	0.27	13.80	1014	32	180	0.30	13.38	2320	45	EVAP 14 IN	650D	6.0	30.0
	202017	174	2.92	13.19	132	157	0.16	13.54	902	32	179	0.28	13.37	2069	46		600D	6.0	30.0
210170	101225	275	8.55	9.28	56	128	0.15	13.11	1935	35	95	0.20	13.15	2230	50	EVAP 14-13 IN	500D	6.0	45.0
	201942	139	4.37	11.85	96	148	0.15	13.04	1880	35	143	0.38	13.32	2536	50	EVAP 14-13 IN	600D	6.0	32.0
	201942	196	4.16	12.34	133	159	0.14	13.36	1828	34	149	0.30	13.71	2707	49		600D	6.0	32.0
210213	101290	83	1.00	13.64	135	98	0.13	13.37	1497	35	93	0.23	13.57	2437	50	EVAP 14-13 IN	675N	6.0	31.0
	202213	158	3.95	12.59	84	174	0.23	13.96	1173	36	148	0.19	13.87	2851	50	EVAP 12 IN	600N	6.0	35.0
	202213	92	1.57	14.15	103	164	0.16	13.87	1433	35	144	0.25	14.03	2467	49		650N	6.0	35.0
210179	101245	146	1.24	14.20	177	85	0.13	13.23	1866	35	56	0.13	13.04	2129	50	EVAP 14-13 IN	525D	4.0	29.0
	202197	242	4.67	12.06	100	120	0.13	13.06	2121	35	73	0.15	13.11	2813	50	EVAP 14 IN	525D	5.0	32.0
	202197	126	0.77	14.38	221	112	0.16	13.24	2313	35	65	0.15	13.25	2976	50		625D	5.0	32.0
210143	101155	140	3.51	11.48	200	83	3.03	11.85	349	25	90	1.99	12.27	1901	39	EVAP 14-13 IN	675D	-6.0	30.0
	202137	38	0.61	14.21	242	209	1.05	13.77	2637	25	154	1.55	13.62	2545	38	EVAP 14 IN	2000N	8.0	30.0
	202137	172	1.23	13.77	509	54	0.72	14.17	774	25	109	0.69	13.87	3042	38		650D	7.0	30.0
210264	101493	359	0.78	12.75	98	75	0.28	13.66	615	25	72	0.75	13.71	1589	38	EVAP 14-13 IN	725N	0.0	35.0
	202039	180	8.81	9.45	71	166	3.25	12.84	493	25	178	3.92	12.34	975	38	EVAP 14 IN	1200N	6.0	32.0
	202039	74	0.58	13.89	108	92	0.51	13.88	757	24	157	2.53	13.16	1426	37		700N	6.0	32.0
210138	101147	102	0.64	12.40	121	45	0.15	12.77	975	32	45	0.23	13.03	1872	49	NO EVAP TEST	325N	-6.0	30.0
	202115	275	4.53	11.91	54	153	0.63	14.07	1122	35	70	0.17	13.46	2524	50	EVAP 14 IN	425N	6.0	.
	202115	113	0.61	13.65	69	153	0.47	14.13	1338	35	71	0.17	13.42	2366	50		550N	4.0	.
210139	101148	152	1.16	13.38	100	61	0.16	13.47	554	35	40	0.14	12.74	798	49	NO EVAP TEST	425N	-4.0	31.0
	202078	84	0.69	13.72	78	20	0.13	13.04	635	36	15	0.15	13.01	1353	49	EVAP 14-13 IN	700N	3.0	36.0
	202078	84	0.58	13.75	74	28	0.15	13.01	564	36	19	0.16	13.16	1430	49		650N	3.0	36.0
210096	101060	252	3.67	11.48	89	110	0.14	13.57	1578	32	64	0.21	13.56	1589	46	EVAP 14IN	475D	-6.0	30.0
	202240	442	4.06	12.37	184	327	0.81	13.88	2691	31	238	1.74	13.59	2689	45	EVAP 13 IN	650D	12.0	29.0
	202240	330	0.87	14.04	168	301	0.31	13.99	2707	31	229	1.21	13.96	2665	44		550D	8.0	29.0
210107	101100	208	2.26	12.14	139	110	0.17	12.99	1237	32	59	0.29	12.79	1105	46	EVAP 14 IN	550D	6.0	31.0
	202248	294	1.93	13.35	432	186	0.13	12.98	3076	35	85	0.18	12.76	2255	50	EVAP 14 IN	700D	14.0	27.0
	202248	345	4.45	12.11	101	177	0.14	13.60	2330	35	64	0.18	13.35	1546	50		550D	8.0	30.0
210123	101127	222	3.84	11.85	92	112	0.39	13.89	1041	32	87	0.78	13.86	1125	46	EVAP 14-13 IN	700D	2.0	30.0
	202060	492	6.42	10.32	72	261	0.19	13.05	2034	31	94	0.23	12.80	1454	46	EVAP 14-12IN	600D	11.0	31.0
	202060	312	1.60	12.96	86	228	0.16	13.33	1455	32	78	0.22	13.17	1079	45		550D	8.0	31.0
210203	101279	110	0.95	13.89	97	103	0.44	13.85	649	33	81	0.56	13.92	1271	46	EVAP 14-13 IN	725N	2.0	30.0
	201978	458	5.93	10.38	48	250	0.28	13.33	1452	31	208	0.46	13.49	2512	46	EVAP 14 IN	600N	8.0	32.0
	201978	397	4.83	11.48	46	246	0.29	13.71	1612	32	196	0.55	13.83	2035	46		600N	8.0	30.0
210148	101160	137	0.29	12.30	90	99	0.13	12.87	970	36	56	0.13	12.11	812	51	EVAP 14-13 IN	575N	-8.0	30.0
	202170	474	0.29	11.89	48	146	0.16	13.57	1368	35	108	0.18	13.26	2510	49	EVAP 14 IN	500N	6.0	29.0
	202170	92	0.24	13.26	60	143	0.15	13.70	1260	35	100	0.18	13.30	2029	49		600N	6.0	29.0

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CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	DWL
210005	100954	82	0.09	13.52	270	26	0.11	13.51	759	35	31	0.20	13.68	1660	49	EVAP 14.0 IN	625D	8.0	31.0
	2C1333	128	0.16	13.90	301	38	0.14	13.39	764	35	24	0.15	13.06	1324	51	NO EVAP TEST	550D	7.0	30.0
	201333	0	0.0	0.0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0		D	.	.
210149	101161	218	4.41	11.23	93	86	0.19	12.47	697	34	67	0.33	12.99	1278	48	EVAP 14 IN	675D	-8.0	30.0
	2C2103	95	2.96	12.93	99	109	0.37	13.28	905	32	50	0.16	13.09	1339	46	EVAP 14 IN	700D	6.0	32.0
	202103	244	4.04	12.34	102	99	0.14	13.03	868	32	63	0.17	13.19	1279	46		550D	6.0	32.0
210212	101289	154	0.70	15.55	207	82	0.27	15.30	1126	35	84	1.13	15.64	1673	50	EVAP 14 IN	575D	6.0	30.0
	2C2166	146	0.51	13.98	242	82	0.18	13.28	1824	35	88	0.84	13.79	2351	50	EVAP 14 IN	650D	8.0	33.0
	202166	105	0.17	14.22	236	65	0.17	13.55	1428	35	85	0.84	14.06	2092	49		550D	8.0	30.0
210241	101347	200	4.13	12.11	107	106	0.44	14.26	1512	34	100	1.59	13.94	1684	50	EVAP 14 IN	550D	6.0	30.0
	2C2178	267	3.32	12.72	152	121	0.20	13.59	2539	34	131	1.17	13.62	2946	50	EVAP 14 IN	675D	16.0	28.0
	202178	282	5.69	11.22	104	215	3.18	12.84	1251	34	158	1.00	13.54	2819	50		600D	13.0	30.0
210254	101382	55	0.18	13.23	258	66	0.24	13.17	1391	35	59	0.47	13.48	1977	50	EVAP 14 IN	600D	0.0	30.0
	2C2041	87	0.85	14.32	156	114	0.53	13.51	602	35	113	0.46	14.31	1411	50	EVAP 14 IN	600D	10.0	30.0
	202041	82	0.57	13.88	133	127	0.57	13.18	640	35	126	0.50	13.84	1421	49		600D	10.0	30.0
210231	101321	53	0.65	13.26	126	50	0.34	14.38	1548	36	26	0.11	13.63	1898	50	EVAP 14 IN	650D	2.0	34.0
	2C2129	152	0.12	13.43	95	67	0.15	13.54	1400	35	39	0.14	13.03	2393	49	EVAP 14 IN	600D	8.0	32.0
	202129	91	0.15	13.97	91	72	0.13	13.64	1449	35	42	0.13	13.15	2254	49		600D	8.0	32.0
210234	101327	63	0.78	12.71	134	70	0.55	14.26	1478	35	32	0.11	13.44	1848	50	EVAP 14 IN	600D	-4.0	41.0
	2C1950	58	0.58	13.17	69	94	0.18	13.71	1273	35	54	0.15	13.14	2064	49	EVAP 14-13.5 IN	600D	8.0	30.0
	201950	0	0.0	0.0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0		D	.	.
210238	101343	90	0.56	12.81	100	81	0.37	13.62	1276	35	44	0.11	12.92	1812	50	EVAP 14 IN	600D	8.0	35.0
	2C1972	192	1.75	13.13	117	90	0.13	13.35	1135	36	70	0.13	13.15	2533	49	EVAP 14-13 IN	650D	7.0	30.0
	201972	199	1.90	13.42	98	74	0.12	13.71	1168	36	62	0.13	13.33	2314	49		600D	8.0	30.0
210281	101837	103	0.11	12.77	124	89	0.11	13.69	1183	35	46	0.10	13.17	1220	50	NO EVAP TEST	525D	6.0	43.0
	2C2252	192	3.74	12.84	90	115	0.13	13.94	1963	35	67	0.14	13.46	2381	50	EVAP 12 IN	585D	12.0	30.0
	202252	131	1.29	14.12	138	116	0.12	13.87	1978	35	67	0.13	13.35	2363	50		600D	12.0	30.0
210102	101077	104	1.12	13.71	141	41	0.18	14.15	1109	34	29	0.15	13.85	1948	50	EVAP 14 IN	550D	4.0	37.0
	2C1982	319	8.13	9.74	44	201	1.14	13.79	768	36	162	0.53	13.84	1826	49	EVAP 14 IN	500D	4.0	27.0
	201982	160	1.55	13.66	98	153	0.49	13.90	819	36	134	0.38	13.85	1702	50		600D	4.0	30.0
210101	101076	116	0.81	12.90	156	62	0.76	13.89	741	35	59	0.88	13.84	1365	50	EVAP 14 IN	550D	4.0	30.0
	2C2143	140	1.50	13.38	138	17	0.14	13.41	582	35	11	0.11	12.71	778	50	EVAP 14 IN	525D	8.0	30.0
	202143	134	1.51	13.38	162	17	0.14	13.39	550	35	10	0.10	13.33	541	49		600D	8.0	30.0
210122	101126	99	1.16	12.81	103	65	0.41	13.25	626	36	50	0.18	13.05	1924	50	EVAP 14 IN	575D	6.0	30.0
	201977	166	2.71	12.81	79	107	0.31	13.92	664	35	98	0.18	13.47	2291	49	EVAP 12 IN	575D	5.0	29.0
	201977	0	0.0	0.0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0		D	.	.
210127	101132	120	0.55	13.76	137	47	0.16	14.62	773	35	36	0.13	14.55	2017	49	EVAP 14-13 IN	675D	4.0	30.0
	202019	115	2.75	12.97	73	35	0.13	13.41	664	35	43	0.14	13.63	2495	50	EVAP 14 IN	625D	4.0	30.0
	202019	0	0.0	0.0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0		D	.	.
210136	101144	48	0.27	11.56	83	47	0.78	11.73	781	35	30	0.16	12.19	1508	50	EVAP 14 IN	775D	-8.0	30.0
	2C1507	61	0.34	11.49	67	59	0.46	11.55	615	35	47	0.24	11.90	1422	50	EVAP 14-12 IN	525D	8.0	30.0
	201507	39	0.19	11.74	92	55	0.34	11.69	849	35	46	0.16	11.89	1796	50		600D	8.0	30.0

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1971 VEHICLE KEYMODE DATA

CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	DWL
210099	101070	148	2.50	12.13	180	115	0.31	13.89	2026	25	138	3.25	12.62	1455	38	EVAP 14-13 IN	725D	4.0	65.0
	202113	89	1.23	14.12	237	116	2.12	7.16	882	24	76	0.74	7.37	1273	38	EVAP 14 IN	850D	0.0	55.0
	202113	92	1.88	13.32	190	106	0.80	14.00	870	25	73	0.77	13.99	1115	38		850D	0.0	55.0
210153	101165	155	1.79	13.28	103	122	0.37	13.77	2303	38	112	0.18	13.39	930	25	EVAP 14 IN	925N	2.0	46.0
	202081	128	1.34	12.92	87	82	0.16	11.82	685	25	83	0.13	11.19	1696	38	EVAP 14 IN	850N	0.0	55.0
	202081	196	2.35	12.12	74	71	0.12	11.56	573	24	80	0.12	11.16	1576	38		850N	0.0	55.0
210167	101221	160	1.32	14.42	98	112	0.17	14.37	973	25	123	0.55	14.94	2363	39	EVAP 14-12 IN	975N	4.0	46.0
	201944	144	0.39	13.46	91	113	0.15	13.26	784	24	130	0.14	13.29	2281	38	NO EVAP TEST	900N	1.0	48.0
	201944	0	0.0	0.0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0		N	.	.
210010	100960	81	1.69	6.70	54	130	2.74	12.35	843	25	124	1.79	12.77	2094	38	EVAP 14 IN	900N	0.0	51.0
	201970	291	5.66	10.71	77	214	4.69	11.59	167	25	228	2.72	12.70	1174	38	EVAP 14 IN	950N	-5.0	52.0
	201970	239	2.83	12.52	76	151	1.88	13.56	409	25	202	2.29	13.21	1395	38		925N	-5.0	52.0
210105	101080	86	2.41	9.49	59	80	0.97	13.98	1165	25	95	1.27	13.68	2201	38	EVAP 14-13 IN	850N	0.0	45.0
	201976	185	3.02	10.96	66	180	1.74	13.54	272	24	170	1.81	13.47	962	38	NO EVAP TEST	950N	-5.0	50.0
	201976	0	0.0	0.0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0		N	.	.
210111	101109	92	1.85	5.86	43	138	1.92	13.48	661	25	133	1.96	13.41	1846	38	EVAP 14-13 IN	950N	0.0	47.0
	202030	159	4.10	9.69	65	212	2.96	12.83	632	25	178	2.86	12.75	1543	37	EVAP 14 IN	850N	-6.0	51.0
	202030	138	3.45	11.51	80	188	3.11	13.01	662	25	187	2.57	13.17	1110	39		950N	-5.0	51.0
210119	101123	190	5.50	5.79	43	179	3.55	12.42	490	25	143	2.15	13.41	1733	38	EVAP 14 IN	925N	0.0	52.0
	201580	281	6.64	6.50	55	241	4.56	12.19	240	25	226	3.37	12.80	1004	38	EVAP 14-13 IN	900N	2.0	53.0
	201580	231	5.98	5.98	52	303	10.62	8.04	539	25	178	3.54	12.71	777	39		850N	5.0	53.0
210219	101296	91	0.80	8.98	79	89	0.54	14.38	1251	25	68	0.11	13.74	2605	38	EVAP 14 IN	650D	4.0	46.0
	202029	233	1.47	12.03	114	186	1.10	13.70	1058	25	155	0.49	13.98	2429	39	EVAP 00 IN	900D	-5.0	50.0
	202029	0	0.0	0.0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0		D	.	.
210270	101768	234	2.06	12.24	106	146	1.08	13.89	919	25	105	0.24	13.80	1922	38	EVAP 14-13 IN	925N	5.0	46.0
	202168	130	1.69	12.24	114	170	0.65	14.19	1150	25	103	0.24	14.02	2020	38	EVAP 14 IN	950N	-5.0	50.0
	202168	133	1.13	11.51	146	133	0.26	13.96	1396	26	94	0.25	13.67	2022	38		950N	-5.0	50.0

TABLE E-2

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LOS ANGELES

1971 VEHICLE KEYMODE DATA

CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	DWL
310012	100273	105	1.93	12.37	121	52	0.07	13.26	1711	32	37	0.08	12.32	1487	46	NO EVAP TEST	600D	6.0	31.0
	203777	187	5.69	10.64	102	22	0.09	13.53	594	29	31	0.12	13.41	1911	45	NO EVAP TEST	515D	5.0	33.0
	203777	94	1.35	13.32	142	20	0.11	13.53	648	30	27	0.13	13.39	1922	45		600D	5.0	33.0
310096	101269	120	3.84	11.77	94	74	0.26	14.86	2156	30	45	0.09	14.53	2859	44	EVAP 14 IN	600D	0.0	48.0
	204028	77	2.50	11.53	159	69	0.06	13.18	2276	30	35	0.08	12.56	2754	45	NO EVAP TEST	600D	5.0	34.0
	204028	86	2.83	11.33	158	77	0.07	13.24	2413	31	44	0.09	12.63	2749	46		D	.	.
310098	101601	151	3.33	11.97	120	64	0.25	14.64	1022	30	63	0.11	14.15	2981	45	EVAP 14 IN	675D	6.0	31.5
	204054	168	5.72	10.48	112	80	0.15	13.63	2056	30	46	0.16	13.22	2817	45	NO EVAP TEST	600D	5.0	32.0
	204054	187	6.04	10.33	115	92	0.16	13.69	2119	31	70	0.18	13.15	3006	45		600D	5.0	32.0
310290	101218	81	0.07	10.52	78	30	0.11	11.65	587	30	29	0.16	13.54	1755	44	EVAP 14.5 IN	500D	0.0	31.0
	204280	157	3.60	12.04	131	146	0.08	13.66	2660	31	99	0.10	13.20	2734	45	NO EVAP TEST	600D	5.0	34.0
	204280	157	4.12	11.69	128	148	0.08	13.79	2724	31	91	0.11	13.13	2920	45		600D	5.0	34.0
310230	100948	76	.07	12.53	130	39	0.08	13.48	1331	30	35	0.07	13.78	2796	45	EVAP 14 IN	500D	2.0	34.0
	201711	349	.55	7.14	41	25	0.24	14.55	552	30	33	0.07	14.00	3057	44	NO EVAP TEST	450D	0.0	35.0
	201711	186	8.80	8.21	39	25	0.15	14.30	625	29	36	0.07	13.92	3379	44		D	.	.
310206	100946	170	2.51	13.00	112	113	0.12	13.98	1387	30	94	0.16	14.22	2592	44	EVAP 13 IN	675D	3.0	31.0
	204346	181	4.84	11.74	118	175	0.33	13.82	1798	31	134	0.20	13.90	3301	45	NO EVAP TEST	650D	2.5	30.0
	204346	183	4.76	11.77	96	184	0.46	13.81	1611	31	143	0.21	13.95	3357	45		650D	2.5	30.0
310208	100914	176	1.53	13.55	123	133	0.23	14.33	1653	30	106	0.36	14.36	2633	45	EVAP 12.0 IN	675D	5.0	30.0
	204306	164	2.61	12.89	150	135	0.27	13.73	2377	33	98	0.16	13.90	3770	45	NO EVAP TEST	650D	2.5	29.5
	204306	180	2.83	12.71	138	145	0.30	13.83	2438	33	123	0.22	13.92	3667	45		650D	2.5	29.5
310009	100233	146	0.96	13.65	147	84	0.10	13.09	2123	35	89	0.11	13.36	3527	49	EVAP 12.6 IN	600D	2.0	30.5
	202817	99	0.10	12.95	118	107	0.11	11.89	1334	33	81	0.12	12.95	3760	48	EVAP 14.1 IN	600D	2.5	30.0
	202817	110	0.10	12.93	116	109	0.12	12.03	1185	33	83	0.15	12.83	3423	48		600D	2.5	30.0
310220	100862	174	3.57	10.85	90	106	1.26	13.08	1639	31	81	0.71	13.20	2521	45	EVAP 14 IN	725N	6.0	34.0
	204394	111	1.27	12.60	223	66	0.10	13.19	2160	30	68	0.46	13.72	4216	44	NO EVAP TEST	750N	2.5	46.0
	204394	117	1.14	12.77	203	73	0.10	13.32	2049	29	79	0.49	13.79	4118	44		750N	2.5	46.0
310360	101539	135	3.02	11.38	54	61	0.80	13.35	994	30	67	1.46	13.63	2326	44	EVAP 14.4 IN	700D	0.0	37.5
	204175	166	7.01	9.84	107	86	0.25	14.30	1641	30	74	0.33	14.01	3542	45	NO EVAP TEST	600D	4.0	43.0
	204175	127	1.93	12.89	311	62	0.11	13.79	1448	30	67	0.30	13.61	3241	46		750D	4.0	43.0
310021	100529	110	3.05	12.38	97	93	0.39	14.04	2243	35	69	0.33	13.88	2554	49	EVAP 14.0 IN	700D	0.0	32.0
	203564	56	0.11	13.30	176	77	0.14	12.74	1628	34	59	0.17	13.22	2239	48	EVAP 11 IN	700D	0.0	34.0
	203564	56	0.10	13.14	175	71	0.14	12.67	1453	34	57	0.20	13.33	2461	49		700D	0.0	34.0
310026	100490	128	4.27	11.74	131	73	0.10	13.42	1959	35	69	0.20	13.53	2629	49	EVAP 13.5 IN	775D	0.0	35.0
	202037	128	3.32	12.29	122	129	0.63	14.07	2130	34	37	0.13	13.11	1906	50	EVAP 14.0 IN	625D	0.0	30.0
	202037	104	2.98	12.78	126	124	0.61	14.14	2064	33	31	0.13	13.09	1838	50		700D	0.0	30.0
310027	100499	313	4.68	10.59	50	142	2.45	13.48	251	35	108	3.13	13.12	367	49	NO EVAP TEST	D	.	.
	202370	96	0.56	14.16	166	121	0.14	14.32	1644	30	91	0.16	13.49	3424	49	EVAP 13.5 IN	630D	2.0	31.0
	202370	93	0.68	14.38	211	132	0.22	14.71	1621	0	79	0.14	13.79	3440	0		700D	2.0	31.0
310028	100521	104	3.13	12.31	100	95	0.70	14.33	1692	35	77	0.49	14.31	2819	50	NO EVAP TEST	700N	0.0	32.0
	202588	84	1.15	13.80	12	117	0.30	13.92	1931	33	109	0.62	14.04	2887	48	EVAP 13.5 IN	750N	1.0	30.0
	202588	65	0.35	14.39	12	120	0.27	13.91	1897	33	113	0.66	13.98	2809	49		750N	1.0	30.0

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CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	DWL
310039	100531	117	3.27	12.19	137	69	0.11	14.06	1644	35	76	0.15	13.46	3131	50	EVAP 14.0 IN	700N	0.0	34.0
	204399	257	9.08	8.50	105	171	1.16	13.79	1634	32	142	0.16	13.09	4014	47	NO EVAP TEST	700N	0.0	32.0
	204399	250	8.78	8.68	114	171	1.35	13.68	1600	32	135	0.15	13.22	4193	48		700N	0.0	32.0
310056	100476	99	0.11	12.09	188	63	0.11	11.80	651	31	63	0.12	12.59	2237	45	NO EVAP TEST	625N	0.0	32.5
	201642	117	2.68	12.76	121	73	0.13	11.60	803	30	64	0.16	12.42	2599	45	EVAP 14.6 IN	775N	0.0	36.0
	201642	94	0.90	13.40	138	95	0.13	11.65	888	30	82	0.16	12.53	3166	45		700N	0.0	33.0
310156	100654	43	0.13	13.80	160	43	0.09	12.96	1637	35	43	0.12	13.40	2752	49	EVAP 14.5 IN	700N	0.0	32.0
	202621	21	0.08	13.99	110	41	0.12	12.91	904	33	39	0.12	13.48	2366	49	EVAP 13.5 IN	780N	0.0	32.0
	202621	26	0.10	13.95	110	45	0.12	13.06	992	33	41	0.13	13.54	2267	49		700N	0.0	32.0
310040	100532	107	1.13	12.87	111	47	0.22	13.91	1632	35	67	0.88	14.14	2398	49	EVAP 15.0 IN	600D	2.5	36.0
	203119	167	6.00	10.95	136	721	0.15	12.73	2269	37	128	0.63	14.08	3044	49	EVAP 11 IN	700D	3.0	30.0
	203119	163	5.75	11.10	146	721	0.16	12.78	2254	37	154	0.66	13.95	3004	49		700D	3.0	30.0
310041	100519	92	2.99	12.20	114	47	0.12	13.58	1136	35	57	0.43	13.77	2417	49	EVAP 15 IN	750N	2.5	34.0
	202162	75	1.54	13.00	84	56	0.13	13.20	1270	33	64	0.43	14.02	2951	50	EVAP 14.0 IN	700N	2.0	35.5
	202162	298	0.52	12.47	112	98	0.12	12.93	1167	32	132	0.30	13.86	3139	48		N	.	.
310043	100443	516	3.02	11.50	127	399	0.11	13.14	673	35	139	0.39	14.35	1569	49	EVAP 14.0 IN	725D	2.5	35.0
	202955	191	1.96	13.09	127	86	0.20	13.14	1829	35	135	1.43	13.55	2528	47	EVAP 14.6 IN	650D	2.5	31.0
	202955	153	0.16	11.22	84	93	0.16	12.97	1639	34	161	1.51	13.64	2411	49		650D	2.5	29.0
310114	100613	163	4.22	12.50	134	68	0.17	13.71	1686	34	80	0.87	14.15	2717	48	EVAP 14.0 IN	800N	2.5	28.5
	202867	89	0.95	13.08	181	82	0.12	12.78	3200	35	101	0.92	13.25	3623	49	EVAP 14.6 IN	700N	2.5	31.0
	202867	100	0.99	13.13	182	79	0.12	12.67	3096	35	104	0.86	13.25	3770	49		700N	2.5	30.0
310234	101039	54	0.66	14.13	139	37	0.12	13.70	1861	35	55	0.94	14.27	2688	49	EVAP 13.5 IN	600D	5.0	35.0
	204068	89	6.27	10.98	132	66	0.75	14.17	1879	33	41	0.36	14.03	3964	49	NO EVAP TEST	700D	2.5	.
	204068	80	5.30	11.54	131	71	0.57	14.23	2023	33	55	0.49	13.95	3778	49		700D	2.5	.
310051	100445	53	0.65	14.08	175	40	0.22	13.32	1353	34	56	0.56	14.11	2738	50	EVAP 14.0 IN	750D	5.0	30.0
	202367	95	1.68	12.45	86	59	0.12	12.95	1221	33	41	0.32	13.96	2899	49	EVAP 14 IN	700D	5.0	34.0
	202367	114	1.07	12.86	61	72	0.15	12.83	941	33	45	0.20	13.94	2002	49		650D	5.0	29.0
310030	100450	68	1.37	12.39	107	91	0.15	13.21	1081	31	78	0.11	12.81	2447	45	EVAP 13.5 IN	980N	5.0	38.0
	202053	109	3.95	11.34	90	157	0.48	13.68	1125	30	129	0.15	13.25	3377	45	EVAP 13.5 IN	1300N	12.0	35.0
	202053	100	2.69	11.66	64	145	0.36	13.70	901	30	137	0.15	13.16	3112	45		N	.	.
310033	100456	98	3.24	12.49	109	74	0.37	14.54	2259	35	48	0.14	13.54	2634	49	EVAP 13.8 IN	700N	2.5	32.0
	201949	81	1.09	14.26	164	102	0.19	14.38	2658	34	63	0.20	13.58	3414	47	NO EVAP TEST	700N	2.5	30.0
	201949	0	0.0	0.0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0		N	.	.
310034	100513	60	0.76	14.07	124	36	0.35	14.37	1122	35	28	0.18	13.27	1815	49	EVAP 14.0 IN	625N	2.5	30.0
	202161	52	0.36	14.57	120	67	0.68	14.72	1188	34	42	0.30	14.16	2409	49	EVAP 14.7 IN	700N	2.5	33.0
	202161	57	0.35	14.55	132	71	0.72	14.64	1079	33	54	0.44	14.25	2452	48		N	.	.
310035	100488	97	3.40	12.11	112	107	2.04	13.45	1424	35	86	1.13	14.10	2551	49	EVAP 14.5 IN	700D	2.5	32.5
	203354	83	3.04	13.11	126	104	0.81	14.16	2101	35	86	0.52	14.35	3632	50	EVAP 13 IN	800D	2.5	31.0
	203354	106	3.01	13.04	141	117	1.06	13.99	1973	34	101	0.68	14.28	3417	49		700D	2.5	31.0
310036	100457	93	2.91	12.87	111	98	1.32	14.17	1629	35	86	0.95	14.27	2721	49	EVAP 13.8 IN	700N	2.5	32.0
	202713	138	4.86	11.64	122	96	0.22	14.63	2135	34	83	0.34	14.48	3342	48	EVAP 15 IN	750N	4.0	30.0
	202713	90	0.58	13.80	123	92	0.13	13.69	1725	33	93	0.45	14.33	3325	48		700N	2.5	30.0

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CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	DWL
310046	100471	120	3.74	11.80	104	81	0.42	14.35	1711	35	74	0.88	14.30	2396	49	NO EVAP TEST	875N	2.5	32.5
	203755	175	5.44	9.91	93	89	1.78	13.23	778	33	58	0.74	13.78	2492	48	NO EVAP TEST	700N	2.5	33.5
	203755	95	1.32	12.57	130	64	0.44	13.50	890	32	72	0.66	13.63	2514	49		800N	2.5	33.5
310317	101267	220	0.21	11.76	69	19	0.15	13.87	535	34	33	0.69	14.41	1105	48	EVAP 14.3 IN	550N	3.0	33.0
	203137	98	1.55	13.02	106	101	1.59	13.66	661	33	73	0.97	14.01	2366	49	EVAP 11 IN	800N	1.0	30.0
	203137	96	2.12	13.05	113	96	1.60	13.67	723	33	76	0.96	13.94	2402	49		800N	1.0	30.0
310087	100566	117	3.21	12.39	103	71	0.16	13.00	1526	34	72	0.80	14.01	2961	49	EVAP 14.5 IN	650N	2.5	30.5
	204305	184	4.05	11.86	119	166	2.31	13.12	796	33	156	3.02	12.68	1746	49	NO EVAP TEST	900N	2.0	30.0
	204305	177	4.19	11.72	124	166	2.19	13.13	824	33	166	3.45	12.34	1506	49		N	.	.
310267	101286	67	1.38	14.19	269	62	0.24	14.12	789	23	62	0.51	13.84	1715	37	EVAP 14 IN	1150N	11.0	40.0
	204485	140	7.42	10.42	137	127	0.59	14.14	1678	24	84	0.61	13.47	2717	38	EVAP 10 IN	800N	12.0	46.0
	204485	156	7.03	10.64	149	140	0.35	14.04	2103	24	108	0.57	13.40	3188	38		800N	12.0	39.0
310015	100334	215	6.10	11.07	99	63	0.09	12.68	789	21	81	0.57	13.81	1978	35	NO EVAP TEST	760D	6.0	46.5
	201608	226	7.75	10.18	87	150	0.12	13.98	2393	23	52	0.14	12.97	1663	37	NO EVAP TEST	675D	6.0	50.0
	201608	138	0.36	15.10	148	134	0.10	13.15	2215	23	53	0.12	12.74	1931	37		725D	6.5	41.5
310016	100333	226	5.64	11.18	92	44	0.12	12.12	427	21	69	0.20	13.22	1827	35	EVAP=13.6 IN	670D	6.0	36.5
	201609	237	7.63	9.90	84	79	0.14	12.64	1224	23	71	0.39	13.00	2105	38	EVAP 13.5 IN	700D	5.0	51.0
	201609	220	2.73	13.15	114	42	0.13	11.75	254	22	100	0.36	13.03	2419	37		725D	7.0	40.0
310093	101243	128	3.61	7.38	83	80	0.09	11.75	1506	24	54	0.27	12.96	1943	36	EVAP 14.9 IN	650D	0.0	42.0
	204091	297	9.25	9.51	100	216	1.13	13.93	1945	23	128	0.15	13.56	3917	38	NO EVAP TEST	650D	6.0	39.5
	204091	216	1.79	13.78	146	205	0.58	13.97	2263	24	146	0.11	13.36	3808	38		650D	6.0	39.5
310266	101117	129	1.54	13.09	381	72	0.11	12.50	1342	30	60	0.12	12.76	2492	45	EVAP 14.0 IN	700D	6.0	38.0
	202754	178	5.74	11.16	128	86	0.13	13.48	1933	29	80	0.13	14.06	3158	43	EVAP 14.3 IN	550D	4.0	35.0
	202754	120	1.27	13.67	179	79	0.12	13.47	1790	29	85	0.13	14.02	3186	44		550D	6.0	33.0
310014	100335	116	0.77	14.34	233	69	0.12	13.47	755	30	101	0.11	13.41	2113	44	EVAP=06.0 IN	600D	8.0	30.0
	201359	78	0.72	14.79	244	57	0.13	13.78	1382	31	77	0.12	13.74	3504	46	EVAP 14.3 IN	600D	.	45.0
	201359	175	0.47	14.16	348	112	0.13	13.22	1339	31	92	0.12	13.52	3752	45		600D	6.0	28.0
310162	100673	115	0.23	13.78	308	81	0.13	12.81	1102	35	88	0.14	12.89	1729	49	EVAP 14.5 IN	650D	6.0	29.0
	202602	97	0.64	14.24	587	94	0.17	13.79	2002	32	88	0.15	13.90	3220	49	EVAP 14.6 IN	625D	6.0	28.0
	202602	122	1.56	13.54	434	107	0.22	14.00	2098	33	100	0.16	13.84	3311	48		600D	6.0	24.0
310215	100859	125	1.58	14.00	254	110	0.22	14.02	2181	33	110	0.17	13.92	2733	44	EVAP 10 IN	500D	2.0	33.0
	202714	102	2.22	13.67	114	116	0.80	13.98	951	29	154	0.58	13.87	2913	44	EVAP 14 IN	650D	6.0	27.0
	202714	107	2.36	13.60	147	108	0.72	13.85	976	30	154	0.59	13.77	2877	43		650D	6.0	27.0
310216	100870	141	0.99	14.41	223	77	0.14	13.60	1050	32	87	0.22	13.79	1433	44	EVAP 11.5 IN	500D	6.0	30.0
	202461	138	7.54	10.25	114	79	0.30	14.48	978	30	96	0.36	14.07	2522	45	EVAP 14.1 IN	600D	6.0	31.0
	202461	203	7.05	10.43	135	151	0.39	14.57	2382	30	143	0.36	13.99	4240	45		600D	6.0	26.0
310217	100830	112	0.44	14.05	275	88	0.11	12.83	734	31	114	0.09	12.92	2056	45	EVAP 14 IN	600D	6.0	31.0
	202388	108	1.23	14.05	233	84	0.12	13.66	974	30	128	0.15	13.60	3233	44	EVAP 14.7 IN	650D	2.0	28.0
	202388	121	1.41	13.95	240	92	0.12	13.53	902	29	139	0.14	13.63	3276	44		600D	6.0	24.0
310236	101100	86	0.14	13.76	304	73	0.12	13.36	910	29	117	0.10	13.35	2880	45	EVAP 13.7 IN	650D	3.0	28.0
	204255	62	0.53	14.02	222	69	0.15	13.73	1014	33	91	0.14	13.75	3019	49	NO EVAP TEST	600D	6.0	32.0
	204255	63	0.38	13.90	230	73	0.15	13.65	1025	33	98	0.14	13.72	2970	49		600D	6.0	32.0

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CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	DWL
310361	101538	122	0.73	13.45	191	97	0.17	13.33	1490	30	117	0.30	13.47	3172	44	EVAP 14.7 IN	575D	6.0	30.5
	203073	103	0.67	13.95	289	143	0.21	13.49	1456	34	166	0.32	13.58	3363	48	NO EVAP TEST	515D	0.0	30.0
	203073	106	0.77	13.85	315	122	0.19	13.49	1243	32	162	0.20	13.52	3744	49		600D	6.0	27.0
310006	100183	121	0.21	14.04	351	73	0.16	13.21	1216	35	78	0.35	13.68	2160	50	EVAP 10.0 IN	575D	6.0	28.0
	201836	69	0.54	14.95	228	57	0.15	13.92	978	33	62	0.28	14.33	2197	48	EVAP 14.5	600D	5.0	31.0
	201836	67	0.45	14.93	237	45	0.11	14.10	536	33	64	0.49	13.98	1607	48		600D	6.0	29.0
310065	100552	67	0.17	14.62	377	37	0.14	13.89	935	35	50	0.14	13.96	2137	50	EVAP 14.6 IN	535D	6.0	31.0
	201387	62	0.28	14.78	274	58	0.15	13.49	1289	35	74	0.16	13.90	2900	50	EVAP 14.3 IN	600D	5.0	34.0
	201387	185	0.15	14.24	865	55	0.13	13.23	1002	34	70	0.17	13.71	2574	49		600D	6.0	25.0
310177	100747	46	0.11	13.62	379	57	0.12	13.34	1377	34	76	0.13	13.71	2982	48	EVAP 14.7 IN	600D	6.0	31.0
	202484	61	0.31	14.68	349	55	0.10	13.35	3099	35	58	0.12	13.94	4245	48	EVAP 14.0 IN	600D	5.0	28.5
	202484	62	0.27	14.72	336	53	0.10	13.27	3014	34	58	0.13	14.03	4245	48		600D	6.0	24.0
310213	100794	51	0.12	14.41	427	30	0.13	13.96	1061	35	37	0.12	13.54	1875	50	EVAP 14 IN	550D	6.0	30.0
	202462	18	0.11	14.26	541	27	0.16	13.77	1343	33	23	0.16	13.85	2519	49	EVAP 13.8 IN	650D	5.0	27.0
	202462	20	0.11	14.39	525	26	0.15	13.82	1337	34	26	0.16	13.87	2564	49		600D	6.0	24.0
310214	100868	224	7.35	10.11	89	54	0.32	14.37	1341	36	43	0.16	14.13	2083	49	EVAP 6.0 IN	325D	3.0	33.0
	202507	45	0.75	14.68	492	36	0.23	14.38	1168	33	40	0.20	14.23	2540	49	EVAP 14.7 IN	600D	6.0	23.0
	202507	40	0.45	14.89	546	32	0.18	14.49	803	32	47	0.25	14.24	2552	49		600D	6.0	24.0
310283	101122	27	0.10	13.96	486	23	0.11	13.38	1315	34	36	0.16	13.63	2922	49	EVAP 14.7 IN	600D	5.0	31.0
	202483	75	2.05	13.55	299	56	0.23	14.09	1577	34	57	0.25	13.99	2814	49	EVAP 13.7 IN	650D	6.0	32.0
	202483	47	0.62	13.65	381	69	0.18	13.69	1562	34	63	0.20	13.64	3032	49		650D	6.0	32.0
310284	101143	37	0.13	14.30	553	22	0.11	13.59	1046	34	24	0.11	13.61	2266	49	EVAP 14.7 IN	525D	4.5	32.0
	202506	74	0.09	12.66	343	108	0.95	14.23	1019	34	91	1.20	14.04	2068	49	EVAP 14.3 IN	650D	8.0	27.0
	202506	85	0.09	13.03	354	128	1.24	13.96	1012	34	100	1.27	13.96	2037	48		600D	6.0	24.0
310285	101144	80	0.50	14.80	537	40	0.16	13.98	1289	32	39	0.11	13.79	2102	47	EVAP 14.3 IN	550D	5.0	32.0
	202482	103	2.95	13.07	199	58	0.25	14.40	1485	34	63	0.18	14.55	2774	48	EVAP 14.8 IN	575D	4.0	34.0
	202482	84	0.98	14.26	309	67	0.24	14.28	1412	33	77	0.19	14.53	2820	49		600D	6.0	29.0
310062	100501	98	0.88	13.67	242	75	0.18	13.73	1681	35	49	0.21	13.59	1837	50	EVAP 14.0 IN	575D	4.0	29.0
	201661	65	1.36	13.93	214	44	0.19	13.58	1317	33	26	0.16	13.79	1866	50	EVAP 13.0 IN	600D	4.5	34.0
	201661	396	0.75	12.84	222	27	0.14	13.32	1173	33	31	0.25	13.82	2128	49		600D	4.0	30.0
310260	101448	28	0.09	13.67	112	121	0.29	14.45	1864	35	51	0.12	12.28	1589	50	EVAP 14 IN	800N	6.0	42.0
	204385	122	3.05	12.89	123	80	0.59	14.20	853	32	33	0.15	12.82	1218	48	NO EVAP TEST	600N	6.0	35.0
	204385	123	2.90	12.98	118	96	0.91	14.05	811	32	39	0.15	13.02	1398	48		600N	6.0	35.0
310280	101190	50	0.14	13.58	152	136	0.09	13.45	2006	30	104	0.12	13.11	2964	45	EVAP 14.5 IN	1400N	7.0	38.0
	203580	188	7.54	10.43	128	118	0.11	13.63	1782	31	94	0.12	13.04	2682	46	NO EVAP TEST	750N	6.0	60.0
	203580	189	7.49	10.46	126	122	0.11	13.43	1726	31	105	0.12	13.09	2777	45		750N	6.0	60.0
310005	100182	99	0.14	13.92	566	118	0.32	13.23	1634	36	92	0.32	13.46	2364	49	EVAP 13.2 IN	625D	7.0	30.0
	203580	124	0.79	12.83	380	87	0.13	12.24	1692	33	89	0.15	13.34	4252	50	EVAP 10 IN	600D	6.0	29.0
	203580	131	1.01	12.77	383	95	0.14	12.38	1865	33	96	0.17	13.32	4249	49		600D	6.0	29.0
310161	100692	84	1.16	13.24	124	50	0.14	13.40	1365	35	50	0.12	13.45	2484	49	EVAP 14.5 IN	650N	6.0	32.0
	202348	109	1.56	13.73	118	119	0.20	13.71	1955	33	103	0.17	13.74	3776	49	EVAP 15.0 IN	750N	11.0	20.0
	202348	55	0.58	13.75	97	47	0.16	13.47	704	29	53	0.17	13.39	2296	50		670N	6.0	29.0

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CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	DWL
310091	100594	70	0.76	13.99	263	51	0.11	13.19	1453	35	41	0.11	13.17	2234	50	EVAP 14.2 IN	625D	6.0	30.0
	202254	49	0.13	14.01	326	59	0.11	13.18	1882	33	44	0.11	13.10	3107	49	EVAP 14.1 IN	675D	.	27.0
	202254	48	0.11	13.77	426	54	0.12	12.98	1786	33	42	0.13	13.00	3039	48		575D	6.0	24.0
310160	101038	103	1.15	14.09	244	35	0.35	13.52	1163	35	14	0.15	13.23	1471	49	EVAP 14 IN	550D	3.0	27.0
	202446	66	0.55	14.34	278	66	0.22	13.52	1366	34	39	0.16	13.41	2541	48	EVAP 13.7 IN	575D	4.0	27.5
	202446	76	0.75	14.29	287	84	0.26	13.67	1485	34	47	0.16	13.57	2746	49		625D	6.0	24.0
310222	100863	96	0.92	14.06	260	49	0.10	13.28	2167	34	41	0.10	13.11	2706	50	EVAP 13.5 IN	675D	10.0	29.0
	202407	37	0.34	14.74	140	46	0.10	13.47	1219	33	18	0.10	13.38	1939	49	EVAP 14.3 IN	650D	8.0	27.0
	202407	45	0.25	14.66	200	52	0.11	13.80	871	33	31	0.12	13.80	2400	48		625D	6.0	24.0
310225	100945	66	0.64	14.49	294	37	0.11	13.51	1328	34	26	0.10	13.36	1920	48	EVAP 14 IN	600D	0.0	28.0
	202139	44	0.33	14.29	235	46	0.11	13.25	1092	33	34	0.12	12.98	2026	48	NO EVAP TEST	600D	6.0	29.0
	202139	44	0.30	13.99	245	51	0.11	13.33	1207	33	40	0.12	13.04	2172	48		625D	6.0	29.0
310007	100181	85	0.56	14.38	328	67	0.21	14.18	1871	35	51	0.13	13.46	2578	50	EVAP 13.0 IN	590D	4.0	29.0
	202094	59	0.43	15.13	265	107	0.42	14.73	1904	33	77	0.38	14.55	2866	49	EVAP 14.8 IN	600D	4.0	27.0
	202094	62	0.45	15.14	262	107	0.42	14.51	1868	33	86	0.35	14.64	2941	48		D	.	.
310105	100639	126	2.46	13.14	321	84	0.54	14.60	2355	22	42	0.84	14.22	1879	37	EVAP 14.0 IN	675D	6.0	31.0
	202202	76	0.43	13.91	506	77	0.11	13.59	2748	23	40	0.26	14.08	2253	38	NO EVAP TEST	575D	6.0	31.5
	202202	80	0.46	14.03	487	86	0.13	13.91	2828	23	52	0.29	14.27	2510	38		550D	6.0	31.0
310117	100620	47	0.55	13.55	165	72	0.15	14.51	2462	25	32	0.31	14.87	1686	36	EVAP 13.6 IN	900N	5.0	30.0
	202220	305	10.15	9.14	94	115	0.13	14.27	2062	23	95	0.60	14.96	3324	38	NO EVAP TEST	700N	7.0	31.0
	202220	316	10.82	8.78	94	193	0.15	14.44	2870	23	129	0.38	14.97	2727	37		700N	6.0	30.5
310064	100518	185	1.82	13.78	152	55	0.11	12.96	1405	31	29	0.11	13.09	1468	44	EVAP 14.8 IN	500D	4.0	33.0
	201641	341	8.99	9.47	57	110	0.11	13.82	2786	30	33	0.15	12.41	1628	45	EVAP 13.5 IN	525D	4.0	34.0
	201641	331	8.69	9.[illegible]	62	95	0.12	13.45	2590	30	38	0.15	12.74	1904	45		550D	4.0	33.5
310072	100578	246	3.21	12.76	98	142	0.24	14.62	1095	31	84	0.09	13.54	2567	45	EVAP 14 IN	550N	4.0	33.0
	202350	159	0.57	13.60	94	74	0.09	13.35	1937	33	32	0.12	12.52	1095	44	EVAP 14.7 IN	550N	2.0	33.0
	202350	142	0.38	13.78	98	83	0.08	13.38	2305	33	42	0.12	12.47	1178	45		550N	4.0	33.0
310109	100691	379	7.57	9.66	75	52	0.10	12.96	1676	31	37	0.10	13.72	2119	44	EVAP 14.0 IN	400D	4.0	32.0
	204453	118	0.73	13.64	150	69	0.14	12.78	1387	31	17	0.16	11.67	719	45	NO EVAP TEST	500D	4.0	33.0
	204453	129	0.92	13.60	166	80	0.14	12.81	1413	31	28	0.18	11.72	1022	45		500D	4.0	33.0
310228	100942	117	0.40	14.42	261	51	0.10	13.29	808	30	27	0.13	13.75	1126	45	EVAP 14 IN	625D	4.0	30.0
	202052	194	1.80	13.62	167	117	0.11	13.56	2041	32	41	0.14	13.99	1852	48	EVAP 14.1 IN	600D	8.0	30.0
	202052	201	1.66	13.73	176	128	0.12	13.68	2165	33	65	0.14	13.99	1857	48		D	.	.
310240	101044	105	4.34	12.05	104	35	0.69	14.56	657	34	17	0.26	14.48	795	49	EVAP 12.0 IN	750N	-8.0	30.0
	202389	423	9.63	8.72	79	147	0.17	13.57	1899	34	93	0.22	13.96	3141	49	NO EVAP TEST	625N	4.0	30.0
	202389	192	0.59	13.71	90	148	0.18	13.31	1748	34	131	0.22	13.79	3066	49		550N	4.0	29.0
310068	100567	142	2.07	13.32	90	20	0.10	14.06	538	35	20	0.10	13.23	786	50	EVAP 14.2 IN	650N	4.0	30.0
	204490	778	0.09	9.55	98	34	0.11	13.21	505	33	26	0.13	13.42	1163	49	NO EVAP TEST	1350N	4.0	30.0
	204490	0	0.0	0.0	0	0	0.0	0.0	0	0	0	0.0	0.0	0	0		1350N	4.0	30.0
310351	101222	154	1.23	13.33	212	58	0.13	14.27	1891	34	43	0.18	14.19	2384	49	EVAP 14 IN	530D	3.0	30.0
	203177	239	4.07	12.08	135	93	0.29	14.15	1553	34	74	0.39	14.11	2242	48	NO EVAP TEST	550D	8.0	30.0
	203177	231	4.41	11.88	144	110	0.35	14.18	1530	34	90	0.42	14.15	2240	49		550D	8.0	30.0

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CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	DwL
310013	100318	96	0.14	13.87	303	59	0.53	13.07	1186	35	41	0.12	13.52	1942	49	TANK PRES 14 LB	600D	8.0	30.0
	201643	97	0.29	14.22	226	64	0.10	12.65	1942	33	51	0.12	13.23	2989	49	EVAP 14.2 IN	650D	5.0	28.0
	201643	97	0.29	14.22	226	56	0.10	12.97	1962	33	42	0.11	13.38	2803	49		700D	6.0	30.0
310054	100432	114	1.25	11.70	235	53	0.36	13.39	1344	35	26	0.11	13.46	1667	49	EVAP 15.0 IN	625D	6.0	30.0
	201640	89	0.56	13.54	166	46	0.10	12.92	1765	33	37	0.13	13.64	2757	49	EVAP TEST FAILE	575D	5.0	29.0
	201640	110	2.24	13.26	159	48	0.10	12.88	1780	33	45	0.15	13.77	2892	48		575D	5.0	29.0
310061	101317	108	1.11	14.07	231	48	0.21	13.73	1935	35	39	0.13	13.92	2689	49	EVAP 14 IN	575D	5.0	30.5
	202051	98	0.30	14.23	173	59	0.11	13.09	1917	33	44	0.11	13.43	2639	49	EVAP 14.0 IN	700D	12.0	30.0
	202051	77	0.41	14.77	193	44	0.13	13.76	1522	33	26	0.12	14.06	2006	48		D	.	.
310092	100590	148	2.17	12.51	135	39	0.10	13.01	948	35	30	0.14	13.73	1293	50	EVAP 14.0 IN	550D	6.0	30.0
	203127	152	2.95	12.47	139	34	0.13	13.04	1158	35	43	0.37	13.85	1876	50	NO EVAP TEST	625D	8.0	29.0
	203127	139	1.99	12.82	195	32	0.40	13.79	696	35	25	0.23	13.72	1277	49		625D	8.0	29.0
310102	100622	92	0.44	14.23	310	63	0.31	14.19	1895	34	39	0.16	13.76	2285	48	EVAP 12.2 IN	605D	8.0	30.3
	201684	79	0.08	12.90	231	68	0.13	13.49	1603	33	43	0.14	13.46	2282	50	NO EVAP TEST	550D	5.0	31.0
	201684	76	0.07	13.06	254	72	0.16	14.00	2437	35	43	0.12	13.60	2491	49		D	.	.
310180	100745	100	0.81	13.82	346	42	0.10	13.29	1290	35	42	0.24	14.40	2126	49	EVAP 14.0 IN	600D	6.0	29.0
	202349	92	0.75	14.04	353	44	0.12	13.05	1482	33	34	0.14	14.07	2525	49	EVAP 14.7 IN	600D	6.0	30.0
	202349	105	0.81	14.08	333	50	0.13	13.22	1694	33	43	0.17	14.20	2637	48		600D	6.0	30.0
310182	100815	66	0.14	13.00	440	61	0.51	13.82	1608	35	39	0.25	13.50	1695	49	EVAP 14 IN	650D	6.0	30.0
	202623	165	0.24	13.63	476	78	0.13	12.90	1453	34	50	0.18	13.66	2189	49	EVAP 13.6 IN	700D	9.0	28.0
	202623	189	0.28	13.54	249	65	0.12	12.85	1151	33	41	0.16	13.89	2056	49		550D	6.0	30.0
310226	100913	158	2.30	12.94	149	61	0.40	14.84	1656	34	20	0.11	13.67	1426	49	EVAP 12.3 IN	500D	8.0	29.0
	202186	127	0.92	14.15	219	77	0.12	13.28	1717	35	76	0.25	14.13	2596	48	EVAP 13.7 IN	625D	6.5	30.0
	202186	138	1.12	14.05	235	90	0.12	13.41	1895	35	96	0.35	14.22	2558	48		D	.	.
310308	101266	102	0.07	13.59	292	35	0.10	12.82	919	34	25	0.11	13.75	1554	49	EVAP 14.6 IN	550D	6.0	30.0
	202253	372	4.67	11.36	90	89	0.17	13.16	1437	33	54	0.17	13.82	2140	49	EVAP 13.7 IN	600D	.	30.0
	202253	280	0.47	14.11	120	88	0.15	12.82	1236	33	71	0.17	13.75	2191	49		550D	6.0	29.0
310136	100725	106	0.13	14.14	411	72	0.52	14.14	2047	34	85	1.85	13.48	1909	48	EVAP 14.9 IN	575D	8.0	29.0
	202850	163	0.09	13.47	358	87	0.16	13.60	2192	33	121	1.54	13.53	2075	49	EVAP 14.5 IN	550D	8.0	30.0
	202850	159	0.09	13.63	386	101	0.21	13.77	2364	33	130	1.86	13.36	1941	49		550D	8.0	29.0
310155	100693	61	0.12	14.24	754	47	0.20	13.83	1833	35	76	1.48	13.99	2114	49	EVAP 14.7 IN	725D	7.0	31.0
	202589	63	0.16	14.10	574	62	0.15	13.79	2461	33	87	2.14	13.28	1854	48	EVAP 14.1 IN	550D	8.0	31.0
	202589	88	0.82	13.96	538	70	0.26	13.94	2566	33	91	1.75	13.52	2182	49		550D	8.0	31.0
310231	100989	90	0.06	14.61	315	55	0.23	15.86	1766	34	55	0.40	15.99	2289	47	EVAP 14.5 IN	625D	7.0	29.0
	202716	106	0.08	14.60	299	56	0.12	14.64	1161	35	80	0.76	15.84	2229	49	EVAP 14.2 IN	650D	6.0	30.0
	202716	106	0.08	14.60	307	56	0.12	14.46	1115	35	81	0.71	15.77	2210	50		650D	6.0	30.0
310238	101019	116	2.14	13.06	114	49	0.25	14.57	1397	34	23	0.12	13.96	2004	49	EVAP 14.5 IN	650D	10.0	29.0
	202755	74	0.90	13.75	129	49	0.12	14.00	1350	35	35	0.12	13.35	2259	48	EVAP 13.7 IN	600D	8.0	31.0
	202755	77	0.93	13.71	129	53	0.13	14.07	1121	33	40	0.15	13.53	2414	49		600D	8.0	29.0
310118	100633	127	0.36	14.26	427	52	0.10	13.09	1561	35	59	0.14	12.96	3108	49	EVAP 12.5 IN	650D	12.0	30.0
	202447	160	0.17	14.81	835	70	0.10	13.13	1668	33	76	0.12	13.41	4203	49	EVAP 14.6 IN	675D	5.0	28.0
	202447	102	0.20	14.77	295	89	0.15	13.94	1391	33	93	0.18	13.86	3624	49		650D	4.0	31.0

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CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	D&L
310186	100949	92	0.85	14.47	406	81	1.16	14.39	1263	34	63	0.60	14.40	2702	48	EVAP 13.5 IN	700D	12.0	31.0
	203577	487	1.00	12.46	633	154	0.90	13.01	1009	32	160	0.21	13.41	3176	50	NO EVAP TEST	600D	8.0	31.0
	203577	487	1.00	12.46	633	154	0.90	13.01	1009	32	160	0.21	13.41	3176	50		600D	8.0	31.0
310190	101042	60	0.20	13.88	282	60	0.48	14.12	1319	34	57	0.28	13.[illegible]	[illegible]10	49	EVAP 13 IN	625D	10.0	30.0
	202948	76	0.23	14.58	232	90	0.37	14.40	1368	35	82	0.20	13.[illegible]	[illegible]38	50	EVAP 13.5 IN	645D	8.0	28.0
	202948	151	0.20	14.32	603	88	0.32	14.21	1427	35	81	0.21	13.75	2863	50		600D	8.0	28.0
310246	101099	79	0.09	12.44	232	45	0.09	13.35	1970	34	38	0.09	12.94	2349	48	EVAP 14.4 IN	725D	14.0	30.0
	202160	62	0.07	13.12	117	67	0.09	13.49	1270	33	44	0.09	12.56	2073	49	EVAP 13.8 IN	625D	12.0	28.0
	202160	52	0.06	13.03	117	75	0.15	13.99	1000	32	66	0.19	14.10	2585	49		D	.	.
310251	101294	81	0.90	12.95	215	48	0.39	14.21	1933	34	31	0.08	13.13	2512	49	EVAP 14.9 IN	650D	12.0	29.0
	202622	71	0.11	14.25	157	74	0.17	13.88	1486	33	41	0.11	12.86	2269	49	EVAP 14.2 IN	650D	12.0	29.0
	202622	73	0.14	14.21	155	82	0.27	13.77	1381	33	47	0.12	12.81	2344	48		650D	12.0	28.0
310250	101293	82	1.10	11.27	112	38	0.13	13.69	1517	34	22	0.10	12.73	1406	49	EVAP 14.5 IN	600D	-2.0	36.0
	203287	91	1.33	13.96	114	84	0.28	13.98	1471	35	45	0.14	13.28	2234	50	NO EVAP TEST	575D	12.0	27.0
	203287	84	0.43	14.08	171	83	0.29	13.83	1511	35	42	0.13	13.22	2250	49		650D	12.0	30.0
310066	100551	66	0.14	13.98	232	65	0.08	13.39	1524	35	44	0.08	12.90	1914	49	EVAP 14.[illegible] IN	600D	12.0	30.0
	201984	79	0.28	14.06	213	99	0.10	13.36	2436	33	46	0.11	13.03	2645	48	EVAP 14.7 IN	650D	10.0	30.0
	201984	74	0.25	14.07	215	104	0.10	13.50	2600	33	50	0.11	13.09	2850	48		625D	10.0	30.0
310282	101141	74	0.19	13.16	173	67	0.09	14.08	2215	34	40	0.08	13.66	2907	49	EVAP 14.8 IN	575D	11.0	30.0
	202266	126	0.74	13.44	154	161	0.11	14.12	3334	34	81	0.10	13.64	4230	49	NO EVAP TEST	550D	.	30.0
	202266	130	0.66	13.40	136	170	0.12	14.15	3426	34	92	0.10	13.72	4240	49		600D	6.0	30.0
310128	100708	7[illegible]	0.08	13.73	691	46	0.14	14.17	1681	35	40	0.21	14.40	2632	49	EVAP 14.0 IN	625D	8.0	30.0
	202831	[illegible]2	0.06	13.30	181	49	0.14	13.15	1649	33	51	0.27	14.40	3331	49	EVAP 14.6 IN	600D	8.0	30.0
	202831	30	0.06	13.34	178	56	0.19	13.44	1846	33	47	0.19	14.22	3249	49		600D	8.0	29.0
310154	100802	47	0.06	12.62	124	40	0.08	12.73	923	34	35	0.09	13.60	2155	49	EVAP 14.5 IN	550D	4.0	30.0
	202668	84	0.17	14.05	151	47	0.16	13.26	1602	33	44	0.21	14.42	3368	49	NO EVAP TEST	600D	8.0	30.0
	202668	48	0.17	14.30	153	44	0.11	13.49	1722	33	42	0.20	14.42	3329	49		600D	8.0	30.0
310010	100234	84	1.04	14.00	164	28	0.13	14.28	805	34	31	0.10	14.20	2137	48	EAVP 14.5 IN	600D	4.0	30.0
	204361	74	1.26	14.02	173	47	0.28	14.37	610	33	53	0.15	14.19	2310	49	NO EVAP TEST	600D	4.0	30.0
	204361	46	0.61	14.30	114	44	0.22	14.37	672	33	49	0.13	14.09	2411	49		600D	4.0	30.0
310018	100428	86	0.21	13.92	255	47	0.39	14.05	1251	35	22	0.09	13.19	1565	49	EVAP 13.5 IN	675D	10.0	30.0
	204235	114	1.03	14.25	259	89	0.47	14.60	1296	33	40	0.14	13.83	2511	49	NO EVAP TEST	600D	10.0	30.0
	204235	114	1.03	14.25	256	94	0.37	14.61	1305	33	55	0.14	13.90	2533	49		600D	10.0	30.0
310055	100444	65	0.65	14.18	161	36	0.37	14.11	768	34	17	0.19	14.25	1131	50	EVAP 14.0 IN	725D	10.0	30.5
	203144	482	1.06	13.60	117	225	0.94	13.66	494	33	92	0.21	13.64	832	48	EVAP 12 IN	600D	10.0	30.0
	203144	501	0.87	13.66	103	225	0.46	13.95	447	34	92	0.16	13.21	749	48		600D	10.0	30.0
310170	100710	105	0.77	14.08	201	48	0.15	13.88	1034	31	35	0.22	13.40	1433	44	EVAP 14.8 IN	600D	10.0	29.5
	204351	157	1.46	13.37	264	78	0.43	13.30	1416	35	44	0.20	12.23	1734	49	NO EVAP TEST	600D	10.0	30.0
	204351	111	0.95	13.77	187	75	0.40	14.08	1460	33	30	0.13	13.00	1579	49		600D	10.0	30.0
310142	101013	87	1.11	13.18	118	59	0.78	14.06	998	34	41	0.29	14.35	3051	49	EVAP 14 IN	625D	6.0	30.0
	202830	92	1.30	14.47	147	45	0.10	14.35	1123	33	38	0.11	14.54	3975	49	EVAP 14.2 IN	650D	9.0	29.5
	202830	95	0.80	14.72	155	97	0.32	15.14	1160	33	53	0.14	14.79	3759	49		600D	10.0	28.0

LOS ANGELES

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CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	DWL
310159	100829	61	0.44	13.95	118	39	0.22	14.69	736	34	40	0.19	14.51	1841	49	EVAP 14 IN	600D	6.0	30.0
	202685	89	0.91	13.99	102	36	0.10	13.77	915	33	51	0.12	14.01	3442	48	NO EVAP TEST	630D	4.0	29.0
	202685	101	1.12	13.93	125	94	1.10	14.28	1194	34	56	0.11	14.14	4103	48		600D	4.0	31.0
310286	101173	28	0.37	9.29	98	32	0.23	12.25	1730	34	19	0.07	12.04	1610	49	EVAP 14.0 IN	630D	8.0	31.0
	202960	30	0.69	11.89	76	40	0.58	12.10	1152	34	22	0.15	12.52	2147	49	EVAP 14.0 IN	600D	8.0	30.0
	202960	28	0.66	11.93	71	37	0.64	12.05	1084	34	24	0.18	12.57	2191	48		600D	8.0	30.0
310100	100604	27	0.97	12.06	76	18	0.68	12.66	743	35	14	0.10	12.58	1892	49	EVAP 14.5 IN	590D	8.0	28.5
	202586	21	1.09	12.20	24	29	1.09	12.34	689	32	17	0.23	12.82	3117	49	EVAP 14.3 IN	600D	8.0	30.0
	202586	20	1.11	12.23	38	26	1.30	12.36	581	32	18	0.38	12.89	2666	48		600D	8.0	28.0
310025	100064	76	1.23	10.54	203	51	0.16	11.86	1062	23	87	1.40	11.77	1934	37	NO EVAP TEST	700D	3.0	47.0
	201662	60	0.72	14.52	267	64	0.13	14.38	1881	24	69	0.57	14.57	3226	38	EVAP 14.0 IN	875D	0.0	50.0
	201662	75	0.85	14.23	246	86	0.14	14.29	2789	23	102	1.74	13.68	2601	38		900D	0.0	45.5
310313	101357	125	0.84	12.67	90	131	0.76	13.00	1206	24	115	2.12	12.91	2016	39	EVAP 14 IN	900N	0.0	42.0
	204293	128	0.84	12.53	119	100	0.46	12.77	992	24	127	1.73	13.29	2386	38	NO EVAP TEST	850N	0.0	47.0
	204293	123	1.12	12.39	122	106	0.46	13.00	879	23	136	1.34	13.48	2542	38		850N	0.0	47.0
310011	100229	216	2.87	10.97	117	49	0.08	14.00	1348	26	51	0.07	13.61	2478	35	EVAP 14.0 IN	525N	0.0	30.0
	201710	192	6.25	8.60	58	137	1.29	13.88	564	23	102	0.57	14.10	2048	38	NO EVAP TEST	825N	-5.0	47.0
	201710	230	6.52	8.09	59	67	0.46	13.92	660	23	50	0.18	13.91	1952	38		N	.	.
310101	100607	65	1.09	11.96	108	55	0.13	13.78	904	22	83	0.80	14.32	2282	37	EVAP 14.2 IN	850N	-5.0	42.0
	201892	164	3.84	10.26	86	197	2.45	13.28	753	24	126	1.32	14.18	1970	38	NO EVAP TEST	1000N	-4.0	46.0
	201892	210	4.21	10.18	85	238	0.62	14.31	901	24	154	0.82	14.42	2189	38		N	.	.
310181	100764	156	3.57	10.76	87	148	2.92	12.88	547	22	91	0.96	14.08	2427	36	EVAP 14 IN	750N	-5.0	40.0
	201925	118	2.81	11.06	101	33	0.38	14.47	804	24	45	0.85	14.12	1332	38	NO EVAP TEST	825N	-6.0	59.0
	201925	159	1.76	11.13	129	150	1.82	12.92	1035	24	105	1.73	12.96	2266	37		900N	-5.0	45.0
310221	100918	207	0.23	12.79	89	91	0.33	14.76	1763	24	84	0.36	14.41	3247	37	EVAP 13.5 IN	600N	6.0	47.0
	202355	233	2.00	13.25	90	178	0.16	14.57	1257	23	193	1.12	13.85	2979	38	EVAP 14.7 IN	900N	-5.0	46.0
	202355	267	1.22	13.41	89	195	0.85	14.07	946	23	200	1.41	13.39	2591	38		900N	-5.0	46.0
310233	100911	164	2.64	12.72	119	97	0.94	14.14	1244	25	88	0.53	14.19	2813	36	EVAP 14 IN	900N	0.0	48.0
	203349	147	2.60	14.11	125	131	0.88	15.10	1309	28	86	0.16	14.49	2799	40	EVAP 12 IN	940N	0.0	48.0
	203349	124	2.97	14.03	120	49	0.12	15.20	575	22	81	0.16	14.71	2632	39		940N	-5.0	48.0
310295	101199	154	2.26	11.43	110	84	0.98	14.36	687	23	74	0.32	14.39	2469	36	EVAP 14 IN	1100N	-5.0	47.0
	204057	222	4.29	9.68	128	86	1.53	13.55	454	23	79	0.47	13.75	3024	38	NO EVAP TEST	850N	-5.0	.
	204057	214	4.02	9.86	128	96	1.70	13.51	644	24	93	0.50	13.83	2889	38		N	.	.
310327	101511	137	4.52	8.52	57	103	1.01	14.22	1205	23	72	0.25	14.46	3002	38	EVAP 14.5 IN	950D	-5.0	41.0
	203108	901	4.86	8.89	123	141	1.25	13.81	1062	23	93	0.34	14.07	2826	38	NO EVAP TEST	775D	6.0	48.0
	203108	149	1.15	12.77	270	106	0.97	14.39	1099	23	300	0.19	13.48	2109	38		950D	-6.0	48.0
310328	101512	77	1.43	10.74	67	50	0.09	13.81	1054	23	71	0.60	14.24	2787	38	EVAP 14.5 IN	875N	5.0	42.0
	203188	159	3.77	10.15	100	134	1.25	14.10	757	21	112	2.10	13.96	1436	37	EVAP 12 IN	800N	-5.0	50.0
	203188	140	3.74	10.24	99	78	0.10	13.74	447	20	136	2.37	13.71	1599	37		800N	-5.0	50.0
310354	101321	267	6.19	8.13	71	117	1.49	13.92	950	24	55	0.20	13.[illegible]	2226	38	EVAP 14.3 IN	1050N	-4.0	41.0
	203135	188	6.67	8.60	102	86	1.93	13.54	462	22	67	0.69	13.71	2605	38	EVAP 8 IN	950N	-5.0	50.0
	203135	188	6.88	8.53	104	99	2.95	13.20	498	23	83	0.28	14.11	2958	37		950N	-5.0	50.0

TABLE E-3

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CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	DWL
410231	100231	162	5.32	10.94	77	106	0.21	14.03	1666	32	48	0.21	13.80	1105	45	EVAP 14.5 IN	5000	-2.0	35.0
	200976	230	5.33	10.65	85	203	0.80	13.75	1411	33	153	0.28	13.28	2744	46	EVAP 15 IN	5800	0.0	29.0
	200976	225	5.32	10.52	74	202	1.02	13.51	1279	33	139	0.29	13.15	2692	46		5750	0.0	29.0
410233	100233	148	4.10	11.97	109	114	0.80	14.39	1822	32	61	0.61	14.38	1367	45	EVAP 14.5 IN	7250	0.0	35.0
	200995	144	3.48	12.63	105	196	1.12	13.67	2073	36	76	0.30	13.85	1892	49	EVAP 14.5 IN	6500	0.0	30.0
	200995	96	1.00	13.95	147	193	1.00	13.80	2040	35	96	0.62	14.01	1883	49		5750	0.0	30.0
410234	100234	160	5.11	10.11	86	82	0.23	13.69	2106	31	46	0.15	13.74	1629	45	EVAP 14.5 IN	6500	0.0	35.0
	200956	97	0.68	13.24	143	118	0.10	12.97	2499	35	94	0.19	13.39	2944	49	EVAP 15 IN	7000	0.0	31.0
	200956	72	0.17	13.16	123	122	0.08	12.44	1981	35	63	0.11	13.08	2106	51		0	.	.
410244	100244	138	3.78	10.94	80	117	1.65	13.33	1418	34	58	0.32	14.13	1565	50	EVAP 14.5 IN	6000	0.0	35.0
	200897	221	4.87	10.46	76	225	0.29	13.80	2315	36	96	0.44	13.78	1556	50	EVAP 15 IN	5500	-8.0	35.0
	200897	108	0.19	12.68	94	228	0.29	13.42	2746	36	135	0.37	13.66	2332	50		6500	0.0	30.0
410136	100135	181	5.57	10.55	70	90	0.12	14.29	1969	35	108	2.22	13.51	1285	49	EVAP 15.0 IN	5500	0.0	34.0
	200986	90	0.49	10.22	90	89	0.16	12.69	1654	35	120	0.67	13.93	3018	50	EVAP 15 IN	5000	1.5	34.0
	200986	94	0.50	13.88	141	96	0.27	12.68	2282	35	137	1.28	13.92	3028	50		5000	1.5	34.0
410613	100889	135	2.84	12.37	108	76	0.29	13.53	1361	36	81	2.22	13.04	1384	50	EVAP 15 IN	7750	2.0	32.0
	201103	58	0.40	13.76	150	65	0.12	12.99	777	35	88	0.68	13.69	1805	50	EVAP 15 IN	6000	10.0	36.0
	201103	58	0.16	13.76	149	86	0.11	12.91	1313	36	115	0.93	13.58	2641	50		6000	10.0	36.0
410240	100240	48	0.31	13.69	186	79	0.80	14.26	1716	34	57	1.22	13.81	1568	50	EVAP 14.5 IN	5800	5.0	30.0
	201014	155	3.22	12.25	93	107	0.34	13.84	2253	33	116	2.21	13.41	1525	48	EVAP 15 IN	5500	5.0	30.0
	201014	452	0.12	9.61	56	109	0.24	13.77	2127	34	100	1.96	13.30	1597	48		5500	5.0	30.0
410492	100641	76	1.40	13.32	84	81	0.47	14.16	1628	35	56	1.13	13.87	1096	50	EVAP 14.5 IN	6000	4.0	36.0
	200988	100	2.12	9.33	86	95	0.17	13.94	1307	37	114	1.39	13.71	1655	50	EVAP 15 IN	7500	5.0	30.0
	200988	111	0.51	8.50	64	85	0.10	12.92	873	36	94	0.72	13.85	1631	50		7000	5.0	30.0
410092	100477	124	2.81	12.80	69	93	1.48	13.56	2043	35	39	0.59	13.66	1815	50	EVAP 14.5 IN	5750	3.0	34.0
	201008	134	0.83	13.46	153	224	1.51	13.05	2370	36	166	1.10	13.07	3056	51	EVAP 15 IN	6000	2.0	30.0
	201008	117	0.09	10.12	90	225	1.29	12.78	2414	35	168	1.17	13.05	2897	51		6000	2.0	30.0
410254	100254	135	0.76	14.01	185	182	0.17	14.46	2148	31	220	2.80	13.01	1333	44	EVAP 14.5 IN	6250	4.0	25.0
	200952	85	0.96	14.18	153	264	0.09	13.41	2659	32	271	0.21	14.01	2991	44	EVAP 15 IN	6000	10.0	39.0
	200952	77	0.64	14.05	162	233	0.08	13.32	2697	35	274	0.15	13.91	3081	45		N	.	.
410255	100255	189	3.72	11.76	141	160	0.05	13.82	3788	32	159	1.59	13.77	2203	45	EVAP 14.5 IN	7000	6.0	41.0
	201003	134	2.52	10.06	123	164	0.11	13.73	4798	30	166	1.05	14.23	3221	42	EVAP 14.5 IN	6250	6.0	35.0
	201003	145	3.01	10.56	141	165	0.12	13.87	4665	30	175	1.91	13.86	2482	42		6250	6.0	35.0
410229	100229	170	1.62	14.00	184	106	0.17	14.41	997	32	136	0.22	14.28	2622	49	EVAP 14.5 IN	7000	4.0	30.0
	201004	179	2.56	13.58	121	173	0.25	14.05	2058	30	179	0.17	13.85	3825	44	EVAP 14.5 IN	6000	6.0	30.0
	201004	154	0.14	13.77	171	174	0.25	13.94	1960	32	177	0.16	13.80	3731	46		5500	6.0	30.0
410268	100269	147	1.68	13.84	217	98	0.12	14.18	1030	34	118	0.13	14.18	2228	49	EVAP 14.5 IN	5500	4.0	31.0
	200984	130	1.25	13.78	242	132	0.16	13.45	1771	34	118	0.15	13.29	2950	53	EVAP 15 IN	6000	6.0	31.0
	200984	119	0.78	14.16	258	139	0.16	13.26	1763	35	136	0.14	13.27	2988	50		6000	6.0	31.0
410308	100327	245	8.13	9.53	94	130	0.33	14.11	1432	31	144	0.09	13.90	3215	45	EVAP 14.5 IN	5000	6.0	32.0
	200891	280	5.44	11.48	144	172	0.15	13.25	1895	35	145	0.20	13.54	2110	42	NO EVAP TEST	6000	6.0	29.0
	200891	123	0.28	14.00	362	139	0.12	13.07	1423	35	157	0.11	13.30	3410	50		6000	6.0	29.0

DETROIT

1971 VEHICLE KEYMODE DATA

CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	DWL
410372	100438	96	1.08	14.18	200	141	0.65	14.54	1077	35	81	0.24	14.44	1397	51	EVAP 14.5 IN	600N	6.0	32.0
	200954	96	0.43	14.20	130	184	0.17	13.50	998	36	158	0.19	13.55	2456	51	EVAP 15 IN	500N	6.0	33.0
	200954	51	0.06	13.69	147	200	0.16	13.32	1546	36	187	0.14	13.38	2760	50		800N	6.0	27.0
410215	100215	103	0.07	12.94	481	112	0.11	13.44	2251	35	88	0.10	13.44	2530	50	EVAP 14.5 IN	500D	4.0	29.0
	200994	239	3.96	12.28	159	182	0.22	13.53	3180	36	102	0.20	13.21	3096	50	EVAP 14.5 IN	450D	6.0	30.0
	200994	129	0.60	9.73	176	186	0.19	13.48	3233	37	100	0.17	13.03	3049	49		425D	6.0	30.0
410218	100218	197	2.15	13.49	209	124	0.88	14.15	1617	35	67	0.45	13.82	1552	51	NO EVAP TEST	525D	4.0	25.0
	201007	313	5.66	10.80	98	185	0.21	14.20	1521	33	164	0.53	13.74	2443	52	EVAP 15 IN	550D	6.0	28.0
	201007	227	2.97	13.25	132	157	0.34	14.27	2815	33	99	0.32	13.86	2085	53		550D	6.0	28.0
410302	100321	155	3.48	12.55	144	118	0.92	13.89	1912	35	76	0.26	13.77	2701	50	EVAP 14.5 IN	600D	6.0	30.0
	200987	200	4.12	12.36	106	151	0.52	14.00	2010	37	115	0.98	13.43	2411	50	NO EVAP TEST	500D	6.0	24.0
	200987	73	0.29	14.17	269	129	0.38	14.04	1749	37	96	0.45	13.72	2405	51		650D	6.0	30.0
410317	100339	200	4.93	11.50	109	128	0.74	14.12	2466	35	87	0.15	13.98	3321	49	EVAP 14.5 IN	550D	7.0	30.0
	200962	176	4.83	11.73	116	146	0.16	13.77	1568	35	141	0.98	13.48	2177	51	EVAP 15 IN	600D	4.0	35.0
	200962	89	0.16	13.69	257	139	0.15	13.53	1472	36	132	0.56	13.72	2195	51		600D	4.0	35.0
410349	100414	104	1.81	13.30	131	127	0.41	14.44	1409	35	84	0.31	14.39	2005	51	EVAP 14.5 IN	700N	4.0	42.0
	201012	170	4.13	12.71	106	850	0.27	14.34	1950	35	118	0.16	13.99	3465	49	EVAP 15 IN	600N	4.0	35.0
	201012	161	3.90	12.97	110	149	0.25	14.38	1744	34	105	0.22	13.71	3324	51		600N	4.0	35.0
410305	100324	130	1.71	12.47	169	106	0.11	13.93	2854	30	53	0.38	13.23	1666	46	EVAP 14.5 IN	600D	6.0	35.0
	200922	353	9.92	8.49	61	197	1.20	13.77	2422	33	107	0.40	13.66	3886	47	EVAP 15 IN	450D	6.0	39.0
	200922	204	0.15	14.23	1671	183	0.88	13.93	2478	32	95	0.24	13.70	3810	46		600D	6.0	39.0
410310	100329	133	2.20	13.13	105	129	0.97	13.55	1087	35	111	0.60	13.93	2210	50	EVAP 14.5 IN	700N	6.0	34.0
	200893	180	3.48	12.45	92	150	0.37	14.00	1044	36	153	0.98	13.77	2054	50	NO EVAP TEST	750N	6.0	28.0
	200893	544	0.12	12.21	73	161	0.52	13.84	1773	36	160	0.42	13.96	3278	50		650N	6.0	28.0
410315	100338	295	8.18	9.46	72	111	0.11	13.63	2509	34	58	0.09	13.27	2498	50	EVAP 14.5 IN	600D	6.0	32.0
	201018	275	6.63	10.70	84	109	0.16	13.47	1411	35	77	0.15	13.04	1823	51	EVAP 15 IN	525D	6.0	29.0
	201018	147	0.63	13.99	176	117	0.11	13.02	1300	35	89	0.15	13.10	2208	51		525D	6.0	29.0
410358	100422	210	5.08	11.69	77	95	0.26	14.46	2212	34	29	0.08	13.39	1611	51	EVAP 14.5 IN	475D	6.0	30.0
	200959	162	1.01	13.87	254	151	0.09	13.14	2367	35	103	0.21	13.01	2451	51	EVAP 15 IN	550D	6.0	30.0
	200959	137	0.33	13.97	261	199	0.08	13.04	2079	35	112	0.17	13.03	2277	50		550D	6.0	30.0
410543	100725	75	0.79	13.61	680	74	0.76	14.31	2406	25	37	0.55	14.04	2082	38	EVAP 14.5 IN	800D	6.0	32.0
	201024	217	4.94	12.23	172	198	1.66	13.84	2093	25	141	1.15	14.17	2889	40	EVAP 15 IN	675D	6.0	34.0
	201024	206	2.70	13.48	267	80	0.68	14.36	941	25	58	0.29	14.47	1531	38		675D	6.0	34.0
410438	100559	253	3.15	12.77	158	76	0.08	13.05	2542	32	45	0.08	12.20	2210	45	NO EVAP TEST	625D	12.0	30.0
	201019	977	9.98	6.09	44	2270	3.85	10.00	484	32	172	1.58	13.77	2013	47	EVAP 15 IN	500D	10.0	33.0
	201019	151	0.29	13.98	137	204	0.43	14.36	868	31	108	0.34	14.21	1979	46		500D	10.0	33.0
410450	100573	184	2.16	13.62	152	38	0.09	13.53	1550	31	27	0.12	14.28	1967	44	EVAP 14.5 IN	525D	4.0	33.0
	200942	218	2.82	12.90	117	78	0.12	13.25	1703	33	23	0.10	13.22	1422	46	EVAP 15 IN	600D	4.0	34.0
	200942	218	1.56	13.63	112	88	0.10	12.81	1222	32	42	0.11	13.11	1590	46		550D	4.0	33.0
410544	100729	179	2.77	13.00	92	92	0.10	14.56	1833	32	63	0.30	14.51	1988	45	EVAP 14.5 IN	600N	2.0	32.0
	201022	152	2.17	13.08	92	188	0.80	13.65	417	30	167	0.84	13.67	1622	46	EVAP 15 IN	700N	4.0	34.0
	201022	251	1.74	13.58	74	167	0.32	14.24	801	33	158	0.48	14.09	1565	46		700N	4.0	34.0

DETROIT

1971 VEHICLE KEYMODE DATA

CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	DWL
410553	100759	213	4.30	11.86	99	80	0.56	14.85	1224	35	77	1.37	13.96	1733	50	EVAP 14.5 IN	500N	4.0	34.0
	201006	263	3.54	12.83	79	119	0.14	14.19	1261	31	173	1.03	14.14	2115	45	EVAP 14.5 IN	650N	4.0	34.0
	201006	237	3.54	12.75	96	101	0.19	14.32	1430	32	138	1.09	14.27	2325	47		650N	4.0	34.0
410562	100779	93	1.14	14.11	125	82	0.07	13.98	1936	31	26	0.09	12.72	1230	45	EVAP 14.5 IN	600N	4.0	34.0
	201009	435	9.51	9.73	52	126	0.13	14.89	642	32	62	0.12	13.66	749	47	EVAP 15 IN	500N	1.0	38.0
	201009	96	0.52	13.93	97	88	0.12	13.63	690	32	55	0.13	12.48	798	45		500N	1.0	38.0
410566	100783	167	1.18	13.87	177	20	0.08	12.68	808	32	34	0.28	13.72	1824	44	EVAP 14.5 IN	500D	4.0	33.0
	201093	188	3.12	12.57	175	50	0.10	13.54	1117	33	37	0.11	12.76	1909	45	EVAP 15 IN	725D	14.0	38.0
	201093	119	1.65	13.22	186	78	0.11	13.74	1681	32	40	0.11	12.90	2069	45		725D	14.0	38.0
410571	100799	201	4.27	11.83	96	36	0.11	13.13	1280	31	56	0.29	14.64	2339	44	EVAP 14.5 IN	500D	4.0	30.0
	200951	252	3.09	12.51	123	396	0.13	13.47	1632	33	107	0.12	12.99	2876	46	EVAP 15 IN	600D	2.0	40.0
	200951	101	0.09	13.48	305	151	0.11	13.40	1649	33	102	0.12	12.56	2160	45		D	.	.
410548	100754	237	2.73	12.62	341	77	0.11	13.76	1484	32	51	0.20	14.32	1767	44	EVAP 14.5 IN	550D	.	31.0
	200931	408	2.00	13.04	407	177	0.16	13.63	2276	33	101	0.12	13.59	2361	45	EVAP 15 IN	650D	12.0	29.0
	200931	405	1.50	13.11	321	165	0.17	13.57	2132	33	91	0.12	13.53	2119	47		575D	8.0	30.0
410086	100084	163	1.34	12.83	128	63	0.09	14.65	1145	31	38	0.15	14.49	1334	39	EVAP 15.0 IN	550D	8.0	30.0
	201007	288	3.14	12.92	147	150	0.29	14.46	1608	35	117	0.27	14.42	2332	50	EVAP 14.5 IN	600D	8.0	30.0
	201007	288	3.34	12.75	152	154	0.33	14.40	1576	36	100	0.22	14.18	2407	51		625D	8.0	30.0
410256	100256	147	1.79	13.04	141	69	0.45	14.07	1199	34	50	0.65	14.10	1358	49	EVAP 14.5 IN	700D	7.0	30.0
	200823	166	2.01	8.05	104	101	0.59	13.66	1251	36	77	0.82	14.03	1425	50	NO EVAP TEST	525D	8.0	39.0
	200823	186	0.38	14.17	719	101	0.59	13.66	1251	36	78	0.82	14.03	1425	50		550D	6.0	30.0
410360	100425	155	3.86	11.92	148	83	0.56	14.30	1381	35	50	0.52	14.43	1453	51	EVAP 14.5 IN	575D	6.0	30.0
	200991	228	1.19	13.72	199	148	0.61	13.45	2169	37	88	0.10	13.27	2797	51	EVAP 14.5 IN	550D	6.0	30.0
	200991	212	0.31	14.00	206	148	0.57	13.37	2038	35	97	0.12	13.33	2838	49		550D	6.0	30.0
410422	100521	69	0.31	14.40	71	52	0.09	13.13	666	31	57	0.30	14.65	1666	46	NO EVAP TEST	650N	6.0	30.0
	200983	68	0.58	13.95	96	131	0.10	13.34	1320	33	106	0.27	13.81	2443	47	EVAP 15 IN	800N	2.0	30.0
	200983	77	0.19	13.79	78	139	0.11	13.38	1016	32	97	0.27	13.47	1416	45		800N	2.0	30.0
410312	100333	183	5.27	11.04	129	120	1.05	13.87	1387	35	97	0.94	13.94	2217	50	EVAP 14.5 IN	725D	12.0	32.0
	200894	138	0.78	13.99	247	115	0.09	13.15	1325	36	121	0.11	13.53	3044	50	NO EVAP TEST	775D	12.0	30.0
	200894	154	0.71	13.87	184	56	0.11	13.62	561	35	54	0.11	13.24	1046	50		650D	12.0	30.0
410313	100334	107	1.99	13.34	202	84	0.77	14.43	1625	35	45	0.21	13.44	1998	49	EVAP 14.5 IN	700D	10.0	30.0
	201038	313	9.18	8.17	70	129	0.24	13.83	1670	35	117	0.39	11.96	1766	49	EVAP 15 IN	520D	12.0	29.0
	201038	107	0.50	13.37	151	112	0.12	13.25	1573	35	126	0.71	12.42	2127	49		520D	12.0	29.0
410526	100699	106	0.76	14.09	246	86	0.30	14.10	2298	36	75	0.82	14.13	2495	51	EVAP 14.5 IN	600D	8.0	30.0
	200924	281	4.25	11.31	211	241	1.69	13.11	2396	36	181	1.68	13.19	2802	51	EVAP 15 IN	600D	6.0	29.0
	200924	209	1.48	13.52	263	221	1.04	13.38	2592	36	152	0.28	13.75	3770	50		650D	10.0	30.0
410065	100065	76	0.06	13.51	465	45	0.22	13.92	1523	35	61	0.98	14.30	1925	50	NO EVAP TEST	525D	-4.0	30.0
	200910	70	0.12	13.84	168	87	0.28	13.45	1773	36	88	0.41	13.89	3075	50	EVAP 15 IN	600D	8.0	30.0
	200910	81	0.30	14.06	179	92	0.21	13.46	1891	36	95	0.60	13.83	3032	50		600D	8.0	30.0
410532	100705	59	0.36	14.26	182	36	0.08	13.67	1541	34	43	0.38	14.46	2515	50	EVAP 14.5 IN	600D	8.0	31.0
	200999	626	0.16	11.58	183	83	0.16	13.04	1433	36	71	0.24	13.74	2375	49	EVAP 14 IN	625D	8.0	30.0
	200999	544	0.13	12.02	184	97	0.15	13.18	1400	35	81	0.28	13.97	2310	50		625D	0.0	30.0

DETROIT

1971 VEHICLE KEYMODE DATA

		IDLE				LOW CRUISE					HIGH CRUISE								
CAR NO	RUN NO	HC	CO	CO2	NO	HC	CO	CO2	NO	MPH	HC	CO	CO2	NO	MPH	EVAP COMMENT	IRPM	BT	DWL
410345	100410	123	2.65	12.92	123	49	0.30	15.03	1013	35	30	0.13	14.67	1940	50	EVAP 14.5 IN	550D	4.0	30.0
	201017	199	4.52	11.69	90	136	2.22	13.22	655	35	136	1.55	13.40	2043	50	EVAP 15 IN	550D	4.0	30.0
	201017	126	1.74	13.29	116	84	0.43	13.95	985	35	92	0.36	13.90	2578	50		550D	4.0	30.0
410344	100409	135	1.71	13.21	168	78	0.75	14.52	1265	35	49	0.49	14.75	1675	51	EVAP 14.5 IN	575D	10.0	30.0
	200915	867	0.24	11.47	170	108	0.12	13.25	1319	36	48	0.11	12.93	1592	50	EVAP 15 IN	600D	10.0	30.0
	200915	871	0.18	11.15	191	111	0.13	13.09	1220	35	52	0.10	12.71	1386	50		600D	10.0	30.0
410559	100776	130	2.66	13.22	143	49	0.31	14.45	1062	33	46	0.38	14.48	2137	49	EVAP 14.5 IN	600D	4.0	30.0
	201023	163	1.19	13.41	155	75	0.23	13.06	1109	35	68	0.19	13.12	2736	51	EVAP 15 IN	600D	4.0	30.0
	201023	153	0.87	13.43	147	60	0.18	13.10	578	35	76	0.17	12.77	1727	51		600D	4.0	30.0
410147	100147	90	0.77	13.73	78	44	0.07	14.04	789	34	37	0.06	14.05	2304	49	EVAP 15.0 IN	550D	2.0	31.0
	200923	71	0.24	14.03	88	71	0.10	13.37	675	35	84	0.10	13.48	2678	49	EVAP 15 IN	650D	3.0	27.0
	200923	67	0.22	13.85	114	79	0.15	13.85	977	36	81	0.09	13.33	2974	50		600D	4.0	30.0
410335	100379	106	1.29	12.67	97	66	0.33	13.70	1421	35	46	0.25	13.61	3020	48	EVAP 14.5 IN	550D	4.0	30.0
	201084	81	1.87	13.11	97	43	0.12	13.59	960	35	54	0.13	13.33	2897	49	EVAP 15 IN	625D	4.0	29.0
	201084	87	1.85	13.03	106	48	0.11	13.51	1005	36	55	0.12	13.17	2849	49		625D	4.0	29.0
410356	100420	94	0.52	14.25	130	56	0.11	14.56	946	35	42	0.07	14.27	2651	50	EVAP 14.5 IN	550D	4.0	30.0
	200985	109	1.66	13.84	183	112	0.41	14.29	1509	35	84	0.19	13.86	3993	50	EVAP 15 IN	700D	4.0	30.0
	200985	130	1.22	13.93	189	157	0.40	13.96	3524	35	127	0.31	13.88	3075	50		700D	4.0	30.0

TABLE E-4

Denver

DENVER

1971 VEHICLE KEYMODE DATA

CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	DWL
510010	100032	343	10.62	8.05	57	129	2.86	12.81	1399	35	96	3.53	12.36	1483	49	EVAP 6 IN	920N	14.0	17.5
	2C077C	278	9.62	8.61	42	196	1.88	13.49	1153	30	147	3.12	12.62	1372	44	EVAP 9 IN	900N	10.0	22.0
	2C077C	369	10.61	7.74	24	131	1.10	13.98	937	30	122	3.43	12.40	945	45		700N	3.0	34.0
510016	100037	167	3.60	12.15	115	152	4.17	12.00	812	30	127	5.38	11.22	747	45	EAVP 7.5 IN	900N	15.0	35.0
	2C0785	206	5.60	10.31	54	174	2.70	13.16	834	30	127	2.31	13.39	1666	45	EVAP 9 IN	700N	10.0	34.0
	2C0785	155	4.96	10.45	66	137	2.38	13.33	653	31	113	2.97	12.92	975	45		700N	3.0	34.0
510105	100212	239	3.72	8.67	99	209	3.44	9.19	613	30	161	4.12	8.74	686	45	EVAP 10 IN	650N	15.0	30.0
	2C072C	219	1.79	13.13	74	224	2.40	13.07	1132	30	169	2.94	12.64	1711	45	EVAP 9 IN	750N	10.0	30.0
	2C072C	295	1.44	13.16	71	231	2.39	13.10	1190	30	164	2.61	12.94	1951	45		700N	3.0	32.0
510210	100368	149	1.02	13.99	567	123	1.86	13.75	1653	31	97	1.85	13.61	2191	46	EVAP 9 IN	750D	4.0	30.0
	2C081C	165	2.13	13.20	160	196	4.08	12.00	767	30	137	3.65	12.47	1569	45	EVAP 9 IN	600D	5.0	32.0
	2C081C	196	2.45	13.03	156	222	3.80	12.18	827	31	150	3.34	12.62	1615	46		600D	5.0	32.0
510255	100414	213	4.29	11.52	126	157	3.05	12.78	916	30	117	5.63	10.94	579	45	EVAP 11 IN	700D	5.0	31.0
	2C0778	342	7.15	9.75	58	220	3.50	12.44	838	30	139	2.01	13.44	2184	45	EVAP 9 IN	480D	9.0	26.0
	2C0778	188	4.25	11.55	85	194	2.88	12.79	825	30	127	1.36	13.74	2080	45		650D	5.0	32.0
510273	100434	184	5.92	10.60	106	88	0.08	14.09	1764	30	54	1.15	13.74	1676	45	EVAP 10 IN	500D	5.0	30.0
	2C079C	149	1.73	13.21	138	103	0.15	14.17	1601	30	42	0.09	13.27	1805	45	EVAP 9 IN	650D	5.0	32.0
	2C0790	179	3.24	12.24	78	106	0.16	14.13	1734	30	42	0.10	13.28	1956	45		600D	5.0	32.0
510278	100450	277	5.98	10.30	115	206	3.87	12.18	815	30	154	5.46	11.10	562	45	EVAP 11 IN	740D	5.0	31.0
	2C0798	269	5.90	10.55	77	441	10.70	7.42	59	30	345	10.70	7.92	107	45	EVAP 12 IN	580D	5.0	32.0
	2C0798	279	6.35	10.32	85	442	10.70	7.53	84	30	371	10.70	7.70	104	44		600D	5.0	32.0
510013	100038	125	0.04	12.63	352	73	0.20	13.86	3019	30	67	1.25	13.33	3121	45	EVAP 10 IN	500D	14.0	35.0
	2C0789	137	0.03	12.76	95	99	0.05	13.26	2133	31	105	0.90	13.88	2940	45	NO EVAP TEST	550D	5.0	37.0
	2C0789	119	0.03	12.71	88	96	0.05	13.27	2175	30	97	0.87	13.87	2923	45		570D	5.0	37.0
510249	100404	181	0.28	14.14	545	153	1.37	13.81	1200	30	139	8.01	9.57	290	45	EVAP 9 IN	660D	4.0	28.0
	2C0777	238	1.91	13.33	110	173	0.94	13.93	1888	30	70	1.54	13.44	1357	44	EVAP 9 IN	560D	5.0	31.0
	2C0777	239	2.12	13.18	107	174	1.17	13.80	1889	30	72	1.55	13.49	1396	44		560D	5.0	31.0
510264	100428	97	0.07	13.55	426	83	0.35	14.20	2120	30	72	1.02	14.00	2494	45	EVAP 10 IN	800D	4.0	32.0
	2C0763	155	1.60	13.43	180	128	0.50	14.25	2326	30	87	0.81	13.90	3477	45	EVAP 8 IN	680D	12.0	31.0
	2C0763	94	0.82	13.84	163	101	0.48	14.26	1543	30	69	0.67	13.97	2605	45		600D	5.0	31.0
510265	100427	135	0.09	13.61	337	110	0.15	14.03	2415	30	123	4.15	11.97	1203	45	EVAP 9 IN	550D	5.0	24.0
	2C0762	197	2.86	12.65	130	111	0.05	13.67	3058	31	152	4.55	11.73	1077	45	EVAP 7 IN	650D	12.0	30.0
	2C0762	150	2.42	12.98	115	90	0.04	13.78	2213	30	142	5.04	11.38	794	45		600D	5.0	32.0
510012	100030	304	5.55	10.25	84	144	1.96	13.21	1565	35	111	1.81	13.31	2110	49	EVAP 12.5 IN	540D	10.0	34.0
	2C0673	257	5.41	10.41	94	207	1.08	13.57	2450	36	155	0.83	13.69	3196	50	EVAP 8.0 IN	600D	3.0	30.0
	2C0673	272	5.69	10.20	94	216	1.36	13.42	2266	35	154	1.25	13.56	2947	50		600D	3.0	30.0
510015	100035	283	6.21	10.30	116	150	2.72	12.89	1695	30	140	4.28	11.89	1328	45	EVAP 13.5 IN	620D	15.0	31.0
	2C0648	242	4.85	11.38	107	181	0.81	13.76	2455	31	170	1.52	13.48	2965	45	EVAP 10.0 IN	650D	3.0	30.0
	2C0648	265	2.82	12.60	100	192	0.81	13.74	2447	31	185	1.68	13.36	2858	45		650D	3.0	30.0
510290	100459	303	6.39	9.50	30	179	2.14	13.36	1393	36	139	2.15	13.26	1936	50	EVAP 11 IN	580D	5.0	30.0
	2C0782	294	3.35	12.18	27	212	0.53	13.64	2763	36	186	1.14	13.48	3136	50	EVAP 12 IN	650D	10.0	24.0
	2C0782	217	2.70	12.44	8	186	0.44	13.76	2113	35	159	1.17	13.47	2460	50		650D	2.5	29.0

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CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	DWL
510014	100042	350	7.01	9.85	131	179	1.39	13.62	2990	30	142	1.75	13.44	3416	45	EVAP 14 IN	620D	35.0	24.0
	200642	395	6.68	9.88	50	237	1.61	13.58	1481	31	200	1.86	13.44	2533	45	EVAP 5.5 IN	490D	6.0	28.0
	200642	163	3.34	12.27	131	192	1.85	13.49	1257	30	173	2.06	13.37	2367	45		650D	2.5	30.0
510018	100043	226	0.37	13.13	213	181	2.16	13.13	2020	35	143	1.78	13.38	2633	50	EVAP 12 IN	500D	10.0	30.0
	200685	343	6.03	10.00	84	237	1.77	13.21	2234	35	194	1.57	13.36	2964	50	EVAP 9 IN	570D	3.0	30.0
	200685	274	5.25	10.65	92	220	1.52	13.37	2325	35	177	1.37	13.47	3000	50		650D	3.0	30.0
510092	100191	137	0.08	10.09	268	159	2.57	9.89	1456	35	133	1.88	10.23	2391	50	EVAP 12 IN	600D	10.0	29.0
	200816	173	0.07	11.86	122	174	0.87	13.73	2152	35	170	1.41	13.58	2834	50	EVAP 9 IN	580D	8.0	30.0
	200816	95	0.30	13.19	151	165	1.51	13.50	1441	34	173	1.85	13.36	2154	49		650D	2.5	30.0
510098	100221	159	2.78	9.94	159	144	2.03	10.79	936	30	138	1.91	10.80	1753	45	EVAP 7 IN	650D	0.0	28.0
	200812	227	4.27	11.88	105	205	0.60	13.93	1370	31	238	0.91	13.78	2794	45	EVAP 3 IN	650D	5.0	28.0
	200812	171	0.34	13.32	164	196	0.32	13.83	1701	30	239	1.13	13.71	2987	45		650D	2.5	29.0
510191	100346	136	0.30	13.52	520	163	5.21	11.25	911	35	121	2.66	13.07	2328	50	EVAP 9 IN	650D	4.0	27.0
	200743	230	0.03	11.49	105	211	3.10	12.55	1647	35	148	1.91	13.39	3033	50	EVAP 12 IN	640D	3.0	29.0
	200743	174	0.18	13.09	208	223	3.40	12.36	1454	36	174	2.31	13.15	2745	50		640D	3.0	29.0
510271	100441	190	4.14	11.60	146	146	1.74	13.61	1960	36	203	10.00	8.52	226	49	EVAP 11 IN	620D	10.0	18.0
	200727	216	4.02	11.64	84	182	0.59	13.79	1817	35	176	0.92	13.62	2825	50	EVAP 6 IN	570D	3.0	31.0
	200727	204	4.11	11.62	104	183	0.49	13.83	1857	35	181	1.02	13.56	2865	51		600D	3.0	31.0
510127	100256	208	1.27	12.89	122	229	3.82	12.25	1177	30	205	7.09	10.08	548	45	EVAP 9 IN	630D	-5.0	43.0
	200710	321	6.94	9.71	93	250	3.80	11.98	1328	30	265	7.73	9.61	484	45	EVAP 10 IN	1000D	14.0	38.0
	200710	234	6.11	10.29	88	237	3.49	12.35	1246	30	229	7.57	9.82	415	45		800D	2.5	30.0
510042	100099	197	5.92	10.23	101	167	5.47	10.98	543	31	116	4.04	11.99	1464	45	EVAP 13.5 IN	850N	3.0	39.0
	200670	111	3.24	12.20	135	159	3.07	12.21	1257	30	127	2.90	12.11	1944	45	EVAP 9.0 IN	1100N	0.0	41.0
	200670	121	3.72	11.66	117	157	2.92	12.35	1224	30	123	3.21	11.82	1794	45		950N	0.0	41.0
510054	100134	176	1.47	12.58	157	157	4.11	11.49	1098	30	188	10.45	7.85	221	45	EVAP 14 IN	600D	8.0	32.0
	200728	958	0.08	11.67	502	139	0.91	13.50	3474	31	102	1.25	13.24	3476	46	EVAP 9 IN	650D	7.0	38.0
	200728	817	0.07	11.91	536	140	0.92	13.40	2745	31	108	2.02	12.97	2692	46		750D	0.0	45.0
510056	100133	388	9.06	7.40	48	259	6.54	9.91	385	30	260	10.81	7.39	145	45	EVAP 13 IN	650D	17.0	28.0
	200792	224	5.18	10.00	49	214	2.22	13.18	2114	31	141	2.23	13.15	2064	45	EVAP 9 IN	500D	3.0	45.0
	200792	201	4.20	11.09	93	205	2.34	13.03	2159	30	145	2.61	12.88	1989	45		625D	0.0	45.0
510052	100124	159	3.16	12.15	132	139	3.25	12.36	871	30	107	3.23	12.30	1120	45	EVAP 13 IN	600D	1.0	41.0
	200671	100	0.28	14.12	139	217	1.78	13.46	1157	30	160	2.27	13.11	1370	45	EVAP 9.0 IN	630D	0.0	31.0
	200671	101	0.20	13.95	121	224	2.24	13.22	1048	30	152	2.40	13.09	1373	45		625D	0.0	31.0
510062	100143	174	4.28	10.98	107	121	0.79	13.39	1459	30	99	0.83	13.57	1948	45	EVAP 14 IN	650D	3.0	27.0
	200662	265	5.63	10.70	88	240	0.28	13.53	2236	30	178	0.65	13.65	2343	46	EVAP 10 IN	700D	0.0	29.0
	200662	264	5.52	10.80	95	229	0.26	13.53	2219	30	162	0.85	13.62	2248	45		600D	0.0	29.0
510067	100150	221	5.72	9.03	100	119	2.23	12.05	1132	35	108	2.24	12.12	1682	50	EVAP 8 IN	600D	6.0	25.0
	200794	165	3.49	12.25	80	130	0.30	13.79	2014	35	137	1.95	13.38	1763	50	EVAP 12 IN	700D	5.0	24.0
	200794	127	2.99	12.27	77	84	0.39	13.69	1183	35	91	1.26	13.53	1569	50		700D	0.0	32.0
510068	100149	132	1.60	12.07	121	110	1.39	12.54	1079	35	82	1.40	12.78	1417	50	EVAP 6 IN	580D	0.0	41.0
	200819	159	1.78	12.62	110	252	0.51	13.40	1515	31	164	1.23	13.48	1548	45	EVAP 9 IN	630D	0.0	30.0
	200819	177	2.91	12.05	98	291	0.91	13.40	1383	30	151	0.93	13.55	1680	45		650D	0.0	30.0

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510238	100412	205	6.35	9.63	91	136	3.35	12.47	782	35	114	4.19	11.93	851	50	EVAP 10 IN	700D	0.0	30.0
	200730	232	3.15	11.97	114	212	0.49	13.43	1981	35	178	1.47	13.45	1885	51	EVAP 9 IN	600D	-4.0	36.0
	200730	202	2.89	12.09	119	217	0.38	13.48	2152	35	167	1.59	13.39	1719	49		700D	0.0	33.0
510079	100174	244	5.46	7.94	87	136	0.99	10.75	2143	35	134	2.71	9.89	1479	50	EVAP 12 IN	575D	8.0	31.0
	200754	205	5.60	10.96	90	141	0.24	13.80	2104	36	150	1.96	13.39	2094	50	EVAP 10 IN	850D	6.0	32.0
	200754	211	4.85	11.34	90	127	0.16	13.65	1883	36	148	1.82	13.43	2073	50		700D	3.0	32.0
510111	100225	186	2.11	9.64	99	176	2.17	9.75	1134	36	157	3.68	8.77	740	50	EVAP 9 IN	600D	7.0	27.0
	200813	110	0.93	13.49	93	221	1.89	13.29	1279	35	230	4.35	11.64	1160	50	EVAP 8 IN	700D	3.0	30.0
	200813	115	0.82	13.55	100	227	1.88	13.33	1210	35	238	4.48	11.57	1081	50		700D	3.0	30.0
510081	100173	149	3.87	8.76	135	64	1.69	10.43	592	35	73	2.51	9.93	813	50	EVAP 12 IN	575D	3.0	35.0
	200639	214	6.63	10.10	88	122	2.53	13.06	730	35	78	2.60	12.97	912	50	NO EVAP TEST	600D	0.0	37.0
	200639	340	6.95	9.96	75	181	1.33	13.78	1971	35	117	2.26	13.23	1790	50		750D	5.0	29.0
510069	100148	-148	-1.67	-5.47	-57	176	1.10	10.16	1764	30	169	1.98	10.80	2341	45	EVAP 13 IN	800D	21.0	27.0
	200640	202	1.46	13.14	187	277	2.12	12.93	2259	31	191	2.98	12.63	2793	45	EVAP 13 IN	900D	.	28.0
	200640	123	1.61	13.29	174	245	1.81	13.23	1827	31	193	1.81	13.34	2788	45		900D	5.0	30.0
510050	100122	150	4.85	11.18	102	116	2.30	13.17	1759	35	78	1.47	13.34	2255	50	EVAP 14 IN	625D	2.0	39.0
	200740	205	4.12	11.67	88	149	0.97	13.60	1342	36	123	0.94	13.33	2145	50	EVAP 6 IN	630D	3.0	30.0
	200740	215	4.21	11.57	92	153	0.93	13.66	1470	36	137	1.00	13.45	2227	50		700D	2.5	30.0
510072	100157	148	2.48	11.72	141	129	1.76	12.19	1963	35	106	1.98	12.02	2138	50	EVAP 12 IN	700D	8.0	32.0
	200821	162	4.17	11.96	103	189	1.67	13.55	2123	35	141	1.24	13.63	2780	50	EVAP 12 IN	800D	3.0	29.0
	200821	232	6.13	10.53	93	209	1.79	13.50	2109	35	154	1.37	13.59	2778	50		700D	3.0	29.0
510227	100387	154	2.42	12.98	117	140	2.68	13.15	1440	35	107	1.95	13.42	1929	50	EVAP 11 IN	575D	10.0	30.0
	200713	152	2.73	12.56	92	272	4.10	11.71	934	36	168	2.30	12.83	1930	49	EVAP 5 IN	600D	2.5	30.0
	200713	152	2.74	12.48	103	235	3.47	12.10	1140	36	171	2.44	12.69	1831	50		600D	2.5	30.0
510045	100104	199	4.11	10.62	111	135	1.84	12.76	722	35	94	2.53	12.58	811	50	EVAP 9.5 IN	850N	1.0	27.0
	200712	285	2.97	11.71	84	118	0.33	13.61	963	35	99	1.23	13.29	1176	51	EVAP 7 IN	975N	4.0	31.0
	200712	229	2.64	11.98	82	119	0.37	13.57	1046	36	90	1.33	13.35	1157	51		900N	0.0	31.0
510048	100115	120	3.21	11.90	123	125	2.91	12.75	925	36	81	2.76	12.87	1112	49	EVAP 14 IN	725D	8.0	26.0
	200641	90	2.58	12.66	122	119	3.32	12.62	1023	35	91	3.41	12.61	1301	50	NO EVAP TEST	775D	0.0	27.0
	200641	41	0.13	13.27	150	123	3.03	12.90	1314	35	85	3.04	12.92	1625	50		800D	2.5	30.0
510109	100216	186	4.48	8.99	131	234	1.15	10.98	1538	22	226	4.42	8.95	861	36	EVAP 10 IN	1400N	5.0	27.0
	200750	154	4.69	11.55	124	319	0.78	13.68	2002	25	289	4.55	11.48	1095	38	EVAP 10 IN	500N	4.0	41.0
	200750	359	6.72	10.23	84	351	0.48	13.71	2985	25	310	3.95	11.87	1501	38		900N	12.0	41.0
510019	100040	227	2.82	12.95	174	204	1.18	13.82	2052	23	217	5.61	10.92	1337	36	EVAP 8 IN	800D	8.0	55.0
	200638	253	3.10	12.82	161	314	0.87	13.76	2633	23	289	5.28	11.09	1144	37	EVAP 3 1/2 IN	850D	8.0	52.0
	200638	325	6.05	10.71	95	307	0.70	13.91	2885	23	270	4.96	11.13	1938	37		600D	10.0	42.0
510169	100331	264	4.86	11.70	162	216	0.11	13.77	3792	22	202	5.99	10.89	1397	37	EVAP 10 IN	820D	0.0	37.0
	200809	307	4.83	11.31	105	289	0.16	13.51	3645	23	348	6.44	10.19	895	37	EVAP 10 IN	750D	8.0	38.0
	200809	307	3.72	11.69	81	311	0.11	13.14	3247	23	356	6.10	10.22	1057	38		650D	6.0	38.0
510172	100332	315	8.65	9.60	91	333	1.46	14.04	1621	22	255	8.60	9.61	401	37	EVAP 10 IN	950N	0.0	42.0
	200735	305	7.36	9.96	85	351	2.75	12.79	1213	23	204	0.07	13.19	4035	37	EVAP 11 IN	670N	0.0	27.0
	200735	364	7.48	9.74	84	381	2.82	12.72	1432	23	235	0.15	13.55	4221	38		750N	6.0	42.0

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510115	100234	214	4.85	11.04	133	226	2.34	13.11	1546	30	234	5.74	10.73	620	45	EVAP 10 IN	850N	-2.0	38.0
	200795	222	5.36	11.18	72	326	1.08	13.83	2263	30	278	2.77	12.90	1628	45	EVAP 11 IN	1000N	2.0	40.0
	200795	319	6.96	10.05	56	334	0.95	13.92	2440	30	279	2.84	12.82	1542	45		750N	6.0	40.0
510196	100351	256	4.79	11.29	181	196	2.30	13.12	2343	30	173	5.53	10.91	858	45	EVAP 10 IN	650D	8.0	37.0
	200724	269	3.24	12.43	194	245	0.28	13.94	3893	31	229	3.16	12.47	1746	45	EVAP 10 IN	700D	6.0	38.0
	200724	259	2.19	12.88	142	233	0.20	13.96	3765	31	226	3.26	12.32	1568	44		550D	6.0	38.0
510002	100003	203	3.09	12.38	168	171	1.75	13.21	898	30	184	1.12	13.46	2411	45	EVAP 6 IN	580D	5.0	27.0
	200626	166	3.15	12.76	183	183	1.45	13.67	1238	30	207	0.96	13.72	3054	44	NO EVAP TEST	600D	6.0	32.0
	200626	185	3.42	12.52	172	182	1.50	13.66	1137	30	215	1.00	13.73	2954	44		600D	6.0	28.0
510003	100004	260	2.94	12.54	147	179	1.59	13.30	1151	30	172	1.72	13.14	1823	45	EVAP 7 3/4 IN	580D	-1.0	30.0
	200628	156	1.84	13.46	213	158	0.76	13.81	1172	29	202	0.66	13.63	3006	44	EVAP 11 IN	625D	6.0	32.0
	200628	154	1.66	13.50	242	168	1.08	13.69	1160	30	206	0.90	13.59	2917	44		625D	6.0	32.0
510129	100255	567	5.79	10.48	111	273	1.72	13.62	929	30	199	1.52	13.65	1900	45	EVAP 10 IN	850N	4.0	30.0
	200781	139	4.34	12.07	94	211	1.27	14.02	779	30	235	0.96	14.02	1961	45	EVAP 10 IN	950N	6.0	29.0
	200781	197	5.41	11.21	91	213	1.24	13.97	799	30	238	1.14	13.83	1891	45		800N	6.0	29.0
510043	100107	203	2.27	13.40	322	146	2.30	13.22	1819	35	114	1.86	13.37	2363	50	EVAP 13 IN	600D	10.0	33.0
	200666	153	0.85	13.84	273	188	0.96	13.59	2067	35	138	0.89	13.65	2563	50	EVAP 9 IN	650D	6.0	30.0
	200666	204	1.82	13.41	150	204	0.99	13.58	2090	35	131	1.04	13.57	2457	51		550D	6.0	30.0
510122	100247	281	4.04	12.09	232	137	1.03	13.88	991	30	108	1.32	13.54	1609	45	EVAP 7 IN	575D	10.0	28.0
	200725	253	3.09	12.29	183	112	0.38	13.73	1011	31	107	1.01	13.43	1535	46	EVAP 0.0 IN	620D	8.0	30.0
	200725	251	2.86	12.37	196	127	0.28	13.81	1135	30	127	0.81	13.58	1733	46		600D	6.0	27.0
510134	100274	163	2.54	13.28	272	129	2.52	13.22	1294	35	93	1.13	13.92	2477	49	NO EVAP TEST	750D	0.0	29.0
	200818	118	0.83	14.07	295	135	0.67	14.02	1781	35	104	0.33	14.20	2636	50	EVAP 12 IN	590D	6.0	29.0
	200818	123	0.96	13.98	297	137	0.61	14.07	1701	34	116	0.45	14.18	2518	49		590D	6.0	29.0
510137	100263	184	3.26	12.83	220	140	1.90	13.56	1456	35	116	0.96	13.97	2354	50	EVAP 5 IN	600D	9.0	29.0
	200783	147	1.06	14.17	162	173	0.51	13.89	2067	35	120	0.65	14.08	2342	50	EVAP 12 IN	635D	6.0	29.0
	200783	308	6.18	10.70	40	175	0.56	13.79	2026	35	123	0.78	14.00	2257	50		500D	6.0	29.0
510173	100322	212	5.14	11.50	142	152	2.43	13.32	1681	35	104	0.93	14.07	2708	50	EVAP 10 IN	640D	7.0	28.0
	200817	206	3.62	12.14	137	247	1.29	13.45	1801	34	170	0.55	13.65	2845	50	EVAP 10 IN	600D	5.0	30.0
	200817	219	4.21	11.71	121	251	1.43	13.35	1745	35	174	0.67	13.63	2792	50		600D	5.0	30.0
510174	100323	184	4.26	12.22	183	150	2.15	13.51	1850	35	111	1.45	13.76	2424	50	EVAP 10 IN	625D	8.0	30.0
	200736	212	1.84	12.94	308	204	0.73	13.23	2071	35	192	0.84	13.31	2831	49	EVAP 8 IN	660D	10.0	30.0
	200736	258	3.10	12.30	165	189	0.61	13.32	2107	34	175	0.85	13.33	2942	50		600D	4.0	30.0
510285	100458	158	0.08	12.35	194	165	0.77	13.92	3084	35	156	1.25	13.75	3370	50	EVAP 9 IN	500D	8.0	32.0
	200787	85	0.06	13.46	240	208	0.83	13.61	2787	35	195	0.88	13.73	3825	50	EVAP 6 IN	660D	4.0	30.0
	200787	83	0.04	13.32	214	221	0.90	13.72	2585	35	203	1.10	13.74	3611	50		650D	4.0	30.0
510262	100467	178	5.08	11.26	97	176	2.38	13.16	1293	36	150	2.09	13.29	2154	50	EVAP 11 IN	750N	8.0	31.0
	200805	246	7.27	10.00	88	178	1.70	13.60	1581	36	155	1.25	13.79	2666	50	EVAP 12 IN	1100N	2.0	30.0
	200805	320	8.72	9.13	86	210	2.51	13.09	1259	35	145	1.52	13.62	2509	50		800N	6.0	30.0
510215	100371	190	2.43	12.96	203	172	2.01	13.34	1993	30	122	1.74	13.22	2032	45	EVAP 12 IN	550D	6.0	38.0
	200738	178	1.44	13.62	351	254	0.66	13.64	3727	30	171	1.18	13.31	3252	45	EVAP 12 IN	600D	4.0	39.0
	200738	263	1.70	13.43	427	276	1.24	13.40	3688	30	199	1.35	13.07	3919	44		600D	6.0	39.0

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CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	DWL
510222	100381	141	7.30	13.43	140	216	2.26	13.26	1985	30	160	2.69	13.07	1574	45	NO EVAP TEST	680N	6.0	35.0
	200737	119	3.23	12.73	123	262	0.69	13.74	3095	30	184	0.93	13.36	3343	45	EVAP 9 IN	800N	-2.0	38.0
	200737	201	3.23	12.61	115	270	0.89	13.71	3284	30	196	0.82	13.47	3800	45		750N	6.0	38.0
510216	100370	242	4.48	11.84	140	125	1.21	13.90	1489	35	104	0.75	14.02	2480	50	EVAP 11 IN	550D	6.0	25.0
	200688	178	10.74	7.77	55	168	2.16	13.44	1279	36	123	0.86	13.92	2767	50	EVAP 9 IN	580D	6.0	30.0
	200688	692	10.60	7.35	72	384	2.46	13.26	1283	35	457	0.96	13.93	2812	51		580D	6.0	28.0
510152	100296	215	3.76	12.33	207	117	1.55	13.53	2120	35	76	0.57	13.70	2856	51	EVAP 12 IN	675D	10.0	28.0
	200811	344	5.53	11.12	111	227	0.66	13.72	2092	35	167	0.51	13.61	2702	50	EVAP 9 IN	625D	6.0	30.0
	200811	330	5.49	11.21	123	220	1.11	13.50	2002	35	161	0.68	13.60	2712	50		625D	6.0	30.0
510164	100305	173	5.81	10.97	136	105	1.18	13.86	2481	34	69	0.40	14.09	3130	49	EVAP 6 IN	680D	-2.0	27.0
	200711	234	5.24	11.50	156	180	0.92	13.67	1925	36	122	0.71	13.70	2346	50	EVAP 5 IN	700D	6.0	29.0
	200711	240	5.40	11.34	159	185	1.13	13.62	1850	35	115	0.73	13.83	2365	51		0	.	.
510208	100362	227	4.75	11.70	144	144	2.25	13.10	2217	35	104	1.50	13.44	2394	50	EVAP 7 IN	575D	10.0	27.0
	200741	194	2.57	13.20	171	146	0.36	13.70	2757	36	112	0.57	13.75	3268	51	EVAP 6 IN	620D	10.0	29.0
	200741	200	2.59	13.08	203	154	0.44	13.73	2747	36	126	0.67	13.71	3142	50		620D	10.0	29.0
510221	100382	186	4.42	11.75	197	103	0.62	13.77	2656	35	71	0.78	13.51	2453	50	EVAP 11 IN	640D	10.0	28.0
	200820	271	6.78	10.30	85	150	0.40	13.59	1993	35	84	0.35	13.31	2043	50	EVAP 11 IN	580D	10.0	29.0
	200820	196	3.79	12.30	142	140	0.58	13.62	2105	36	95	0.37	13.31	2044	50		625D	10.0	29.0
510178	100324	240	3.76	12.46	178	167	1.71	13.56	2839	35	144	0.87	13.79	3845	50	EVAP 12 IN	560D	8.0	33.0
	200748	213	3.96	12.06	151	246	1.38	13.41	1969	35	208	1.06	13.32	2846	50	EVAP 12 IN	600D	0.0	30.0
	200748	271	3.76	12.13	153	293	1.53	13.32	2351	35	249	1.16	13.35	3297	50		600D	6.0	28.0
510155	100294	133	1.24	11.33	274	76	0.84	11.71	1208	35	72	1.35	12.30	1346	50	EVAP 4 IN	600D	8.0	30.0
	200797	139	1.22	11.14	208	116	0.61	11.41	1663	35	127	1.01	12.09	2253	50	EVAP 12 IN	680D	10.0	23.0
	200797	134	2.82	10.84	77	80	0.77	11.84	1126	35	97	1.17	12.29	1609	50		600D	4.0	27.0
510039	100095	325	8.13	9.32	142	219	6.10	10.54	468	24	149	3.77	12.19	1422	38	EVAP 11 IN	720D	12.0	28.0
	200687	242	3.76	12.07	194	157	1.99	13.23	1464	22	90	2.08	13.17	1609	37	EVAP 8 IN	600D	13.0	31.0
	200687	221	3.82	12.04	192	144	1.72	13.35	1607	22	87	1.95	13.19	1746	37		600D	6.0	31.0
510101	100203	227	5.31	7.82	260	168	4.88	8.06	491	22	110	3.24	9.19	1166	37	EVAP 12 IN	880D	14.0	32.0
	200613	528	6.66	10.17	168	301	2.75	12.90	1374	22	182	2.23	13.28	1900	38	EVAP 10 IN	600D	10.0	32.0
	200613	489	6.28	10.39	146	271	2.34	13.24	1261	22	151	1.86	13.52	1773	37		550D	6.0	32.0
510157	100307	147	4.75	11.23	126	146	4.51	11.56	666	23	96	3.55	12.33	1276	38	EVAP 12 IN	800N	12.0	28.0
	200682	137	2.22	12.70	130	146	1.48	13.64	1475	23	120	3.06	12.76	1248	37	EVAP 9 IN	700N	6.0	31.0
	200682	172	2.65	12.43	120	201	1.60	13.53	1333	22	210	3.21	12.65	1199	37		700N	6.0	31.0
510097	100196	182	2.34	10.01	175	76	0.66	11.11	1100	30	86	2.44	10.05	1128	44	EVAP 9 IN	550D	2.0	22.0
	200672	269	4.62	11.51	116	94	0.11	13.87	1733	31	120	2.40	13.10	1576	46	EVAP 8.0 IN	560D	4.0	31.0
	200672	264	4.97	11.32	114	100	0.10	13.91	1742	30	103	1.99	13.29	1765	45		550D	4.0	31.0
510104	100211	246	4.26	8.64	101	122	1.53	10.30	734	30	71	0.33	10.70	1614	44	EVAP 10 IN	600N	3.0	32.0
	200721	189	3.69	11.93	86	182	0.84	13.67	1060	30	109	1.36	13.36	1432	45	EVAP 8 IN	700N	4.0	31.0
	200721	238	3.26	12.22	77	189	1.17	13.43	1045	30	102	1.33	13.33	1464	45		550N	4.0	31.0
510153	100299	412	9.69	8.35	65	176	6.74	10.27	213	30	131	4.40	11.90	799	45	EVAP 13 IN	680N	4.0	33.0
	200804	277	7.23	9.92	58	170	3.16	12.78	461	30	124	3.32	12.71	828	45	EVAP 10 IN	550N	-2.0	30.0
	200804	331	6.13	10.50	50	214	2.79	13.03	709	31	136	2.84	13.02	1064	45		550N	4.0	30.0

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510209	100366	317	6.99	9.60	89	124	2.21	13.24	847	30	91	1.58	13.50	1608	45	EVAP 9 IN	450D	4.0	30.0
	200729	323	4.03	11.86	81	233	3.51	12.42	757	30	147	3.15	12.71	1124	46	EVAP 10 IN	500D	6.0	30.0
	200729	291	3.74	12.01	77	219	3.48	12.44	667	30	135	2.79	12.99	1189	45		500D	4.0	32.0
510020	100048	250	3.28	12.26	182	111	1.71	13.32	652	30	144	7.34	9.77	239	45	EVAP 9 IN	610D	8.0	32.0
	200378	643	4.58	11.02	117	326	0.76	13.55	1406	29	229	1.70	13.04	1534	45	EVAP 12 IN	525D	10.0	28.0
	200378	577	3.88	11.53	108	279	0.92	13.45	1267	30	178	1.66	13.00	1361	45		525D	8.0	28.0
510032	100087	260	3.12	12.52	167	143	2.12	13.42	799	35	122	3.32	12.64	748	49	EVAP 14 IN	580D	12.0	28.0
	200689	333	2.44	13.17	195	206	1.14	13.89	1474	35	142	1.93	13.44	1434	50	EVAP 7 IN	650D	8.0	29.0
	200689	363	2.93	12.66	132	216	1.24	13.82	1472	35	142	1.99	13.41	1384	50		530D	8.0	29.0
510149	100298	122	0.65	14.08	250	94	0.64	13.80	1146	35	69	0.68	14.00	1330	50	EVAP 9 IN	1300N	4.0	32.0
	200719	163	0.23	13.53	175	157	0.28	13.48	1529	36	100	0.28	13.62	2280	50	EVAP 0 IN	600N	8.0	28.0
	200719	170	0.20	13.40	164	151	0.20	13.46	1418	36	111	0.24	13.59	2173	50		1600N	6.0	30.0
510187	100344	265	2.10	13.18	115	179	3.12	12.68	496	31	133	3.06	12.73	808	46	EVAP 12 IN	800N	6.0	30.0
	200803	1109	6.91	9.72	62	321	1.00	13.88	1071	30	260	3.00	12.81	961	45	EVAP 12 IN	600N	20.0	28.0
	200803	252	3.58	12.53	66	78	2.24	13.50	490	30	159	9.27	8.97	113	45		700N	4.0	28.0
510027	100070	103	0.71	12.81	430	57	0.71	14.09	1059	34	78	4.33	11.81	608	48	NO EVAP TEST	620D	10.0	32.0
	200733	186	0.09	13.77	351	84	0.21	14.11	1141	36	141	4.43	11.84	573	50	EVAP 9 IN	600D	6.0	30.0
	200733	200	0.29	13.97	394	93	0.33	14.19	1230	35	123	3.19	12.57	875	50		550D	6.0	30.0
510040	100093	191	0.71	13.20	450	136	1.50	13.78	1565	35	140	3.90	12.19	1049	51	EVAP 14 IN	600D	14.0	29.0
	200784	256	0.38	13.57	394	220	0.80	13.98	1914	35	152	0.56	14.10	2485	49	EVAP 12 IN	625D	14.0	29.0
	200784	191	0.18	13.52	295	173	0.82	14.08	1528	35	101	0.57	14.22	1926	49		550D	8.0	29.0
510102	100206	224	2.12	10.23	207	150	3.02	9.88	682	35	117	3.20	9.71	792	50	EVAP 8 IN	600D	9.0	29.0
	200692	258	0.64	13.97	278	255	2.24	13.26	1337	36	197	2.85	12.86	1410	50	EVAP 9 IN	600D	6.0	30.0
	200692	239	0.42	14.00	314	240	2.00	13.36	1415	36	189	3.01	12.79	1332	51		600D	6.0	30.0
510103	100207	211	4.83	8.27	131	78	1.51	10.61	970	35	92	3.43	9.44	786	49	EVAP 11 IN	575D	7.0	29.0
	200716	459	4.96	10.62	112	218	1.39	13.46	1007	35	159	1.06	13.56	1653	51	NO EVAP TEST	600D	14.0	28.0
	200716	405	4.99	10.83	101	113	0.78	13.77	860	35	133	2.21	13.01	1045	50		550D	8.0	30.0
510135	100269	173	4.16	12.11	17	70	0.80	14.27	1081	35	85	2.52	13.24	1418	50	EVAP 10 IN	650N	6.0	33.0
	200747	156	3.29	12.50	89	42	0.31	14.17	1057	36	31	0.31	13.72	1901	50	EVAP 12 IN	550N	0.0	37.0
	200747	144	2.86	12.80	81	49	0.35	14.17	1138	36	28	0.28	13.61	1826	50		600N	4.0	31.0
510219	100376	149	3.99	12.22	117	79	0.23	14.33	983	35	89	2.58	13.28	1384	50	EVAP 10 IN	800N	4.0	32.0
	200752	153	3.67	12.38	95	29	0.19	14.11	774	36	31	0.37	13.43	1531	50	EVAP 12.5 IN	700N	4.0	33.0
	200752	198	3.81	12.09	109	20	0.20	13.94	768	36	23	0.35	13.28	1477	50		550N	4.0	33.0
510001	100001	159	0.30	13.51	329	115	2.55	12.55	1015	35	100	3.37	12.03	947	49	EVAP 7 IN	540D	10.0	28.0
	200601	207	0.60	13.75	249	137	1.05	13.14	1491	35	154	2.69	12.73	1324	50	EVAP 10 IN	600D	10.0	29.0
	200601	174	0.50	13.77	154	138	1.33	13.49	1156	35	136	2.73	12.77	1108	50		550D	6.0	29.0
510004	100002	155	0.05	12.95	293	97	1.52	13.21	913	35	84	1.65	13.15	1287	50	EVAP 3 IN	560D	9.0	32.0
	200557	154	0.08	13.34	254	120	1.28	13.79	1137	36	140	3.21	12.77	1114	50	EVAP 12 IN	600D	8.0	30.0
	200557	151	0.08	13.35	252	107	1.11	13.60	875	35	117	1.79	13.69	1346	50		600D	8.0	30.0
510025	100076	241	3.29	12.17	207	172	4.66	11.90	392	35	199	10.70	8.07	130	50	EVAP 7.0 IN	650D	6.0	30.0
	200656	175	0.30	13.05	404	158	1.37	13.17	1420	35	139	2.20	13.01	1527	51	NO EVAP TEST	680D	8.0	30.0
	200656	155	0.13	12.58	292	135	1.27	13.21	1191	35	131	2.44	12.90	1251	50		650D	6.0	29.0

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510028	100072	271	7.97	9.57	111	147	2.79	12.97	668	29	131	4.63	11.75	538	43	EVAP 7 IN	650D	8.0	28.0
	200691	266	2.05	13.35	201	135	0.24	13.59	1470	30	127	0.94	13.84	1854	45	EVAP 10 IN	600D	6.0	29.0
	200691	266	1.70	13.52	230	127	0.22	13.51	1465	30	110	0.83	13.77	1829	46		600D	6.0	29.0
510094	100193	138	1.97	9.99	115	103	0.46	10.70	934	30	115	2.69	9.58	873	45	EVAP 12 IN	700N	7.0	29.0
	200822	244	5.90	10.87	102	245	0.57	14.06	1576	30	215	2.49	13.03	1568	45	EVAP 14 IN	800N	6.0	28.0
	200822	143	0.62	13.80	114	203	0.12	13.99	1444	30	235	2.20	13.21	1348	45		650N	2.0	28.0
510125	100244	175	0.48	14.03	450	112	2.82	13.00	852	35	165	10.34	8.46	173	49	EVAP 11 IN	600D	8.0	30.0
	200751	204	0.36	13.98	324	129	0.78	13.57	1149	36	126	1.88	13.48	1459	50	EVAP 13.5 IN	630D	6.0	29.0
	200751	194	0.16	13.97	347	120	0.60	13.56	1140	36	130	1.86	13.48	1476	51		615D	6.0	29.0
510126	100245	191	3.27	12.41	211	114	2.04	13.71	960	35	157	10.09	8.65	166	49	EVAP 10 IN	600D	8.0	31.0
	200734	187	0.42	13.78	366	156	1.19	13.56	1314	36	110	1.09	13.67	1961	50	EVAP 10 IN	650D	12.0	30.0
	200734	133	0.22	13.46	264	114	1.13	13.78	983	35	82	1.79	13.34	1162	50		550D	6.0	30.0
510130	100252	421	9.74	8.19	69	173	6.62	10.26	196	35	190	10.81	7.52	102	49	EVAP 8 IN	580D	8.0	29.0
	200760	266	0.23	14.11	439	157	0.64	13.58	1454	34	162	1.78	13.48	1850	49	EVAP 12 IN	650D	9.0	29.0
	200760	246	0.30	14.16	426	140	0.64	13.62	1217	34	307	8.89	9.19	187	49		650D	6.0	30.0
510140	100276	184	2.54	12.59	346	105	3.00	12.82	766	35	143	8.74	9.27	217	50	EVAP 4 IN	600D	8.0	30.0
	200771	363	1.95	12.78	154	167	0.81	13.78	1077	35	152	1.35	13.54	1533	49	EVAP 10 IN	650D	8.0	30.0
	200771	373	2.22	12.10	142	150	1.01	13.38	912	35	148	2.25	13.16	1126	49		550D	6.0	30.0
510141	100277	349	7.36	9.85	102	132	2.42	12.97	810	35	123	3.71	12.49	853	50	EVAP 11 IN	630D	12.0	30.0
	200636	252	0.31	13.71	528	111	1.16	12.90	829	35	103	1.89	13.66	1527	50	EVAP 3 IN	660D	8.0	28.0
	200636	227	0.59	13.88	329	75	1.24	13.29	710	35	148	7.66	9.91	226	50		650D	6.0	30.0
510158	100313	186	1.91	13.06	238	88	1.89	13.45	852	35	95	2.71	13.02	1174	50	EVAP 11 IN	575D	6.0	31.0
	200780	202	1.25	13.61	220	89	0.31	13.70	1108	35	118	1.39	13.74	1575	50	EVAP 10 IN	675D	6.0	31.0
	200780	225	1.14	13.60	142	87	0.28	13.72	1112	35	117	1.57	13.63	1550	49		550D	6.0	31.0
510184	100349	177	4.31	11.67	154	119	3.81	12.29	554	35	146	10.32	8.33	152	50	EVAP 12 IN	575D	8.0	30.0
	200814	565	6.06	10.36	66	179	0.94	12.98	1373	35	215	2.09	13.07	1905	49	EVAP 10 IN	500D	6.0	30.0
	200814	437	5.45	10.81	87	167	0.93	13.05	1357	35	219	1.84	13.17	2049	50		700D	6.0	30.0
510190	100343	133	0.79	13.82	306	86	2.04	13.14	701	30	88	2.15	13.42	1147	45	EVAP 10 IN	630D	6.0	30.0
	200796	197	0.80	14.23	261	85	0.10	13.51	930	30	90	0.96	13.94	1364	45	EVAP 10 IN	670D	8.0	30.0
	200796	172	0.15	14.31	196	83	0.08	13.63	1004	30	78	0.67	13.99	1441	45		550D	8.0	30.0
510085	100183	207	2.98	8.69	100	134	1.92	10.10	827	35	116	2.25	9.99	1165	49	EVAP 12 IN	600D	10.0	30.0
	200815	991	3.43	8.19	82	990	1.71	9.52	590	36	989	2.21	9.30	721	50	EVAP 10 IN	600D	8.0	30.0
	200815	3485	3.60	8.06	82	3687	1.75	9.47	570	36	3613	2.15	9.32	702	50		600D	8.0	30.0
510108	100215	129	1.52	10.04	166	99	1.13	10.87	1401	35	82	1.43	10.68	1801	49	EVAP 10 IN	660D	4.0	29.0
	200807	191	2.47	12.91	142	155	0.73	14.25	1505	35	131	1.12	14.03	2049	49	EVAP 11 IN	800D	10.0	29.0
	200807	207	2.28	12.37	96	147	0.51	14.29	1658	35	134	1.21	13.94	2024	50		600D	8.0	29.0
510177	100326	169	3.46	11.68	100	125	2.25	13.30	1081	35	86	1.55	13.78	2005	50	EVAP 12 IN	690N	10.0	29.0
	200806	137	2.84	12.43	65	171	1.60	13.52	1200	35	134	1.54	13.66	2310	50	EVAP 13 IN	850N	9.0	28.0
	200806	141	2.82	12.48	73	169	1.76	13.44	1175	35	123	1.42	13.65	2325	50		800N	8.0	29.0
510145	100289	148	3.62	10.73	130	102	1.64	12.59	1459	35	86	2.12	12.62	1986	50	EVAP 8 IN	720D	10.0	30.0
	200658	131	3.13	12.36	123	116	1.32	13.85	1678	36	95	1.99	13.58	2441	51	EVAP 10 IN	750D	8.0	29.0
	200658	139	4.08	11.17	78	137	1.13	13.90	1621	35	100	1.77	13.65	2524	50		600D	8.0	29.0

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CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	DWL
510049	100113	179	3.76	11.94	128	102	1.39	13.79	1638	35	64	0.58	13.94	2157	51	EVAP 13 IN	675D	13.0	30.0
	200759	212	1.80	13.29	142	168	0.57	13.56	1799	34	118	0.16	13.55	3214	47	EVAP 9 IN	660D	12.0	29.0
	200759	210	1.39	13.33	113	149	0.09	13.45	2017	34	127	0.12	13.49	3258	47		650D	12.0	29.0
510057	100128	200	2.71	11.57	310	104	0.96	13.03	1548	35	82	0.47	13.13	2199	50	EVAP 14 IN	650D	13.0	26.0
	200776	142	1.20	13.49	110	125	0.56	14.00	1354	35	108	0.12	13.68	3058	49	EVAP 10 IN	650D	7.0	27.0
	200776	208	0.55	13.47	123	177	0.63	13.90	2271	35	121	0.14	13.60	4225	49		650D	12.0	30.0
510168	100336	175	3.56	12.53	598	112	2.64	13.13	1441	35	77	1.64	13.35	1991	49	EVAP 10 IN	700D	8.0	28.0
	200652	141	2.54	12.97	200	155	1.57	13.32	1575	35	95	0.91	13.28	2084	50	EVAP 9 IN	750D	8.0	30.0
	200652	148	2.50	12.89	151	161	1.64	13.20	1696	36	87	1.09	13.10	1947	50		650D	8.0	30.0
510059	100136	132	1.79	13.15	196	74	0.05	13.53	1802	35	44	0.09	13.55	1567	50	EVAP 13 IN	700D	15.0	28.0
	200660	123	0.47	14.07	204	101	0.10	12.83	1925	36	38	0.11	12.49	1363	50	EVAP 9 IN	700D	12.0	29.0
	200660	117	0.46	13.98	189	102	0.10	12.77	1928	35	41	0.12	12.60	1488	50		700D	12.0	29.0
510138	100268	156	3.17	12.03	135	81	0.41	14.42	1587	35	79	1.66	13.79	1705	50	EVAP 11 IN	650D	20.0	29.0
	200774	554	1.58	13.01	299	135	0.30	14.07	1530	35	69	0.17	14.10	2451	49	EVAP 10 IN	745D	10.0	28.0
	200774	255	0.71	13.45	110	53	0.10	13.82	1006	35	53	0.10	13.96	2118	49		650D	12.0	30.0
510060	100135	241	4.16	11.36	101	141	2.62	12.57	1332	35	131	3.38	12.05	1373	50	EVAP 14 IN	520D	16.0	28.0
	200766	233	1.74	13.57	65	167	0.40	13.50	2143	35	175	1.17	13.73	2746	49	EVAP 11 IN	550D	10.0	30.0
	200766	240	1.48	13.68	64	193	1.25	12.97	1761	35	176	1.26	13.65	2703	49		550D	10.0	30.0
510061	100140	147	2.68	10.98	149	116	2.18	11.25	1216	35	114	4.11	10.02	885	50	EVAP 13 IN	630D	10.0	28.0
	200742	186	1.56	13.70	183	182	0.95	13.59	2354	35	150	1.12	13.66	3102	50	EVAP 12 IN	670D	9.0	30.0
	200742	200	1.97	13.44	188	191	1.27	13.43	2194	36	160	1.62	13.46	2768	50		650D	10.0	30.0
510084	100182	128	2.41	9.40	143	106	2.54	9.72	865	35	58	0.72	10.74	1946	50	EVAP 12 IN	580D	8.0	30.0
	200745	187	4.91	11.01	91	103	0.30	14.12	2081	35	59	0.09	13.77	2814	50	EVAP 13 IN	625D	8.0	30.0
	200745	180	4.85	11.14	103	99	0.23	14.09	2097	35	54	0.09	13.85	2780	50		600D	8.0	30.0
510188	100348	102	3.10	12.26	163	93	3.47	12.42	747	35	58	1.00	13.91	1731	50	EVAP 12 IN	660D	6.0	30.0
	200793	80	0.65	13.72	137	122	1.19	14.07	1523	35	54	0.16	14.18	2568	50	EVAP 11 IN	725D	8.0	30.0
	200793	89	0.64	13.36	80	116	1.37	13.91	1436	35	49	0.15	14.13	2501	50		570D	8.0	30.0
510198	100350	120	3.42	11.91	271	76	2.93	12.74	925	35	48	0.92	13.89	1760	50	EVAP 12 IN	650D	8.0	31.0
	200686	81	1.26	13.22	139	87	0.64	13.98	1461	35	53	0.23	13.98	2156	50	EVAP 10	700D	8.0	30.0
	200686	112	1.36	12.73	139	93	0.81	14.01	1357	35	47	0.19	13.88	1987	51		650D	8.0	30.0
510183	100327	105	1.77	13.12	154	78	1.35	13.86	1424	35	69	2.55	13.14	1652	50	EVAP 10 IN	580D	10.0	30.0
	200764	69	0.10	13.86	168	82	0.24	14.17	2004	34	78	0.97	13.92	2651	49	EVAP 7 IN	700D	12.0	30.0
	200764	65	0.05	13.43	108	67	0.21	14.22	1556	35	80	1.24	13.89	2195	49		600D	8.0	30.0
510023	100074	127	3.39	12.43	135	73	1.74	13.44	653	35	77	2.83	12.75	996	50	EVAP 6 IN	750D	4.0	30.0
	200769	178	0.54	14.20	156	143	1.74	13.63	720	35	129	2.05	13.44	1361	49	EVAP 10 IN	700D	4.0	30.0
	200769	203	0.50	13.36	78	153	1.94	13.52	684	35	141	2.04	13.44	1393	49		600D	4.0	30.0
510024	100073	105	1.39	13.30	190	57	0.80	13.95	813	34	55	1.00	13.89	1271	48	EVAP 6.5 IN	750D	4.0	31.0
	200758	191	3.21	12.28	69	84	0.70	13.93	773	34	63	0.32	13.97	1766	49	EVAP 10.5 IN	600D	4.0	30.0
	200758	191	3.18	12.30	69	92	0.84	13.91	682	34	77	0.32	14.01	1787	49		600D	4.0	30.0
510029	100077	130	2.50	13.11	175	76	1.09	13.87	880	35	102	5.82	10.83	413	49	EVAP 8 IN	650D	4.0	30.0
	200768	143	2.51	13.18	111	107	1.34	13.89	804	35	106	1.31	13.83	1971	49	EVAP 10 IN	700D	4.0	30.0
	200768	128	0.90	13.64	69	117	1.29	14.02	839	35	111	0.92	14.14	2179	50		600D	4.0	30.0

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510144	100285	158	2.91	13.06	223	87	1.00	14.10	1130	35	58	0.96	14.08	1426	50	EVAP 12 IN	675D	10.0	29.0
	200788	180	0.82	13.68	131	110	0.63	13.93	1168	35	48	0.56	14.09	1383	50	EVAP 6 IN	640D	10.0	29.0
	200788	186	0.87	13.62	146	124	0.74	13.82	1294	35	56	0.57	14.01	1355	50		640D	10.0	29.0
510154	100297	133	0.73	13.84	240	88	1.25	14.03	1098	35	47	1.00	14.19	1306	50	EVAP 11 IN	600D	8.0	32.0
	200767	287	3.78	12.24	46	155	1.25	13.65	1162	36	92	0.59	13.97	1636	49	EVAP 11 IN	600D	10.0	29.0
	200767	279	4.02	12.07	45	128	1.48	13.20	914	35	80	0.68	13.88	1600	49		600D	10.0	29.0
510178	100321	153	2.00	13.50	186	88	0.98	13.97	1575	35	58	0.54	14.12	1976	50	EVAP 11 IN	650D	8.0	30.0
	200746	216	1.79	13.20	172	141	1.08	13.14	1403	35	60	0.15	13.52	2150	50	EVAP 12 IN	650D	10.0	30.0
	200746	223	1.12	13.40	168	141	0.61	13.81	1748	36	63	0.18	13.55	2259	50		600D	10.0	30.0
510030	100080	151	2.31	13.16	145	81	0.93	14.00	1193	35	59	0.96	13.86	2123	49	EVAP 14 IN	650D	7.0	29.0
	200661	148	2.55	13.14	147	122	1.09	13.94	1320	35	90	0.87	13.82	2819	50	EVAP 9 IN	700D	4.0	29.0
	200661	164	2.89	12.89	115	117	1.04	13.95	1356	36	70	0.91	13.82	2819	50		625D	4.0	29.0
510035	100083	172	1.85	12.99	112	82	0.75	13.97	1287	35	67	0.92	13.92	1925	50	EVAP 12 IN	550D	4.0	28.0
	200726	645	1.10	12.80	185	109	0.42	13.61	1542	36	107	0.57	13.71	2882	50	EVAP 8 IN	600D	25.0	26.0
	200726	537	1.03	13.08	175	118	0.67	13.77	1381	35	115	0.97	13.66	2716	50		600D	4.0	30.0
510193	100359	139	2.42	13.11	138	105	1.61	13.85	1605	36	77	1.65	13.85	2370	50	EVAP 12 IN	690D	10.0	30.0
	200761	136	1.34	13.37	102	108	0.31	14.27	1438	34	94	0.46	14.18	3230	49	EVAP 11 IN	725D	4.0	29.0
	200761	202	3.16	12.52	78	157	1.87	13.57	958	34	102	0.79	14.05	3002	49		600D	4.0	30.0
510017	100041	78	4.71	9.74	24	27	1.63	11.91	442	35	19	0.92	12.91	843	49	EVAP 10 IN	640D	10.0	30.0
	200647	109	1.69	10.60	47	66	1.58	11.58	735	35	25	0.50	12.75	1121	50	EVAP 12 IN	640D	8.0	29.0
	200647	84	1.93	10.62	45	59	1.49	11.72	721	35	25	0.48	12.80	1142	50		600D	8.0	29.0
510088	100186	47	2.55	8.63	95	9	0.74	9.84	714	35	8	0.40	10.27	1067	49	EVAP 11 IN	700D	10.0	30.0
	200634	98	2.24	10.84	131	44	1.87	11.80	907	35	22	0.81	12.79	1483	49	EVAP 12 IN	650D	4.0	30.0
	200634	101	2.11	10.84	130	50	2.14	11.67	860	35	24	0.79	12.77	1515	49		750D	8.0	30.0
510167	100317	34	2.72	11.16	86	14	0.98	12.57	773	36	12	0.67	13.32	940	51	EVAP 10 IN	750D	9.0	30.0
	200694	46	2.38	11.35	63	37	1.45	12.13	785	36	18	0.71	13.34	967	50	EVAP 10 IN	650D	8.0	29.0
	200694	46	2.52	11.39	68	37	1.59	12.10	653	35	17	0.58	13.32	1053	51		650D	8.0	29.0
510021	100068	123	1.29	12.76	107	100	0.14	12.83	1920	25	134	3.34	11.71	1198	36	EVAP 15 IN	900N	-6.0	48.0
	200646	120	0.50	13.74	97	164	0.10	13.36	2272	23	214	4.03	11.72	1102	38	EVAP 12 IN	1030N	-5.0	50.0
	200646	222	0.78	13.26	67	150	0.07	12.78	1863	22	216	4.16	11.61	1060	37		910N	-5.0	50.0
510250	100435	177	3.43	12.07	121	141	2.52	12.71	682	22	133	3.67	11.91	1172	37	EVAP 12 IN	825N	0.0	48.0
	200643	142	0.62	13.75	116	99	0.08	12.55	1571	22	115	1.76	13.76	2392	37	EVAP 8 IN	800N	0.0	50.0
	200643	145	0.62	13.86	128	115	0.10	12.72	1918	22	141	1.80	13.63	2398	37		850N	0.0	50.0
510280	100447	272	4.99	10.72	120	129	0.47	13.84	2094	23	123	3.68	11.99	1220	37	EVAP 10 IN	570D	0.0	47.0
	200732	98	0.42	14.02	394	137	0.08	13.04	3245	23	180	3.98	11.73	1254	38	EVAP 5 IN	800D	0.0	42.0
	200732	109	0.80	13.88	401	127	0.05	13.26	3404	23	165	4.53	11.41	1076	37		900D	-5.0	43.0
510287	100463	212	4.37	10.80	102	86	0.07	13.44	2150	22	101	3.45	12.41	1478	37	EVAP 11 IN	550D	0.0	47.0
	200799	64	0.09	13.62	384	126	0.15	13.37	3165	24	173	3.56	12.28	1400	37	EVAP 11 IN	800D	0.0	50.0
	200799	71	0.08	13.58	329	115	0.07	13.06	2650	24	162	3.85	11.96	1216	37		800D	0.0	50.0
510005	100260	360	6.51	10.24	98	360	3.72	12.30	579	23	146	2.72	12.52	2593	38	EVAP 12 IN	1000N	4.0	50.0
	200693	230	6.21	8.34	104	155	3.34	11.39	378	22	149	4.62	11.63	1007	37	EVAP 8 IN	700N	5.0	50.0
	200693	217	6.55	8.58	101	192	3.52	11.80	426	22	156	3.66	12.23	1372	37		700N	5.0	50.0

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510117	100236	241	6.39	10.10	113	219	3.73	12.14	541	22	163	4.46	11.59	1369	36	EVAP 14 IN	950N	0.0	48.0
	200649	282	6.08	10.37	118	437	2.67	12.81	898	22	205	3.53	11.92	2020	38	EVAP 9 IN	1100N	1.0	47.0
	200649	371	6.59	10.07	103	502	4.21	11.73	556	22	267	3.91	11.70	1765	38		970N	-5.0	47.0
510160	100311	155	4.90	10.72	94	101	3.76	11.92	448	22	104	4.82	11.10	1154	38	NO EVAP TEST	900N	0.0	48.0
	200683	184	4.99	10.87	90	258	3.23	12.49	455	22	140	3.69	11.92	1108	38	EVAP 9 IN	900N	5.0	50.0
	200683	144	5.00	10.92	96	153	3.62	12.22	404	22	113	3.72	11.90	1117	38		900N	-5.0	50.0
510163	100308	192	4.69	11.53	131	304	2.17	13.40	1372	22	109	4.68	11.58	1104	38	EVAP 12 IN	750D	0.0	45.0
	200668	286	4.12	11.54	115	391	2.22	13.01	1385	22	135	2.35	12.89	2196	37	EVAP 9.0 IN	840D	2.0	49.0
	200668	289	4.37	11.41	114	324	2.43	12.91	1267	22	203	2.23	12.91	2438	38		900D	-5.0	49.0
510171	100320	481	7.84	8.95	87	206	3.57	12.35	818	22	135	2.76	12.74	2412	38	EVAP 12 IN	900N	0.0	45.0
	200723	212	4.78	11.19	101	152	2.12	13.19	1042	25	129	1.64	13.31	2448	38	EVAP 14 IN	900N	-5.0	51.0
	200723	178	4.55	11.40	96	162	2.13	13.20	1033	26	136	1.34	13.53	2507	38		900N	-5.0	51.0
510229	100391	249	3.03	12.39	144	377	1.45	13.37	1197	22	153	5.18	11.00	1224	37	EVAP 12 IN	890N	0.0	45.0
	200779	148	0.55	13.94	98	161	0.85	13.92	1254	25	115	1.18	13.74	1848	37	EVAP 8 IN	900N	-5.0	50.0
	200779	151	0.59	13.96	91	166	1.11	13.78	1415	25	101	1.08	13.74	1800	37		900N	-5.0	50.0
510240	100393	159	5.86	10.31	102	125	1.95	13.22	1159	23	106	3.25	12.40	1416	37	EVAP 11 IN	850N	0.0	45.0
	200772	145	4.52	11.80	94	132	0.55	14.07	2099	30	173	5.33	11.22	866	45	EVAP 10 IN	950N	-5.0	50.0
	200772	153	4.62	11.77	95	151	0.27	14.25	2202	30	165	5.34	11.15	843	45		900N	-5.0	50.0
510241	100398	694	10.62	7.56	63	403	3.42	12.35	599	22	210	4.19	11.56	1598	37	EVAP 10 IN	800N	0.0	45.0
	200722	226	4.96	11.17	104	233	4.19	11.73	548	24	195	3.50	12.13	1574	38	EVAP 7.5 IN	900N	0.0	45.0
	200722	202	4.85	11.23	125	222	4.12	11.75	582	24	184	3.28	12.28	1636	38		950N	-5.0	45.0
510244	100407	354	8.05	9.44	96	216	3.59	12.44	548	22	178	1.42	13.62	2363	37	EVAP 10 IN	800N	0.0	45.0
	200712	255	7.92	8.67	81	193	3.77	12.06	645	25	121	0.91	13.71	2704	38	NO EVAP TEST	850N	0.0	52.0
	200712	255	7.92	8.67	81	183	3.77	12.05	608	24	121	1.30	13.57	2419	38		850N	-5.0	52.0
510245	100408	461	10.00	8.35	104	353	4.22	12.13	519	22	216	5.17	11.28	1630	36	EVAP 10 IN	800N	0.0	46.0
	200690	256	9.41	8.50	68	111	2.15	13.40	781	22	116	4.63	11.17	1263	38	EVAP 9 IN	900N	-5.0	50.0
	200690	282	9.39	8.48	74	144	2.37	13.24	731	22	117	4.16	11.30	1135	38		900N	-5.0	50.0
510256	100423	213	7.67	9.31	85	108	1.63	13.44	1226	22	85	1.33	13.27	2654	37	EVAP 11 IN	780N	0.0	45.0
	200744	97	0.15	13.97	94	178	0.09	13.84	2089	23	155	0.22	13.78	3798	38	EVAP 9 IN	1720N	10.0	50.0
	200744	279	0.24	13.80	86	233	0.09	13.85	1655	24	181	0.21	13.83	3140	38		950N	-5.0	50.0
510257	100424	155	4.91	11.13	99	172	3.50	12.20	802	22	109	5.51	10.72	723	37	EVAP 11 IN	900D	0.0	45.0
	200786	116	4.67	11.76	84	169	2.95	12.99	866	24	108	1.16	13.96	2410	37	EVAP 9 IN	770D	-5.0	50.0
	200786	124	4.64	11.78	92	171	3.34	12.70	851	24	117	1.48	13.84	2298	37		950D	5.0	50.0
510259	100445	332	8.22	8.97	73	280	4.45	11.70	445	22	178	6.55	10.19	548	38	EVAP 11 IN	700N	0.0	50.0
	200756	169	4.04	11.66	108	296	3.31	12.07	980	24	155	1.14	13.39	2250	35	EVAP 7.5 IN	900N	0.0	54.0
	200756	242	6.05	10.23	85	327	3.13	12.13	1187	24	193	1.63	13.06	2395	35		900N	-5.0	48.0
510261	100425	258	4.69	11.46	129	392	2.02	13.42	1158	22	140	5.01	11.30	1355	37	EVAP 10 IN	780N	0.0	45.0
	200715	130	4.04	11.41	105	141	1.68	13.42	1237	23	167	4.71	11.28	922	38	EVAP 7 IN	1200N	5.0	40.0
	200715	137	4.44	11.12	92	129	0.88	13.95	1471	23	170	5.18	11.04	780	38		900N	-5.0	48.0
510263	100456	258	4.78	11.15	134	225	1.72	13.36	860	22	134	6.02	10.42	549	37	EVAP 11 IN	1000N	0.0	50.0
	200718	154	2.12	13.04	115	175	2.06	13.14	1086	25	153	1.25	13.31	3153	38	NO EVAP TEST	1500N	0.0	47.0
	200718	145	2.72	12.55	107	171	1.97	13.00	1162	25	131	1.26	13.32	2984	38		1500N	0.0	47.0

DENVER

1971 VEHICLE KEYMCDE DATA

CAR NO	RUN NO	IDLE HC	IDLE CO	IDLE CO2	IDLE NO	LOW CRUISE HC	LOW CRUISE CO	LOW CRUISE CO2	LOW CRUISE NO	LOW CRUISE MPH	HIGH CRUISE HC	HIGH CRUISE CO	HIGH CRUISE CO2	HIGH CRUISE NO	HIGH CRUISE MPH	EVAP COMMENT	IRPM	BT	DWL
510269	100436	225	5.24	10.71	107	294	1.22	13.36	1223	23	117	3.16	11.70	1651	37	EVAP 11 IN	925N	0.0	45.0
	200801	159	4.91	10.64	84	184	2.54	12.79	995	24	102	0.77	13.75	2092	37	EVAP 12 IN	1070N	-5.0	55.0
	200801	183	5.52	10.10	88	178	2.65	12.74	933	24	96	0.78	13.74	2126	38		900N	-5.0	50.0
510274	100449	126	1.74	13.55	193	131	1.58	13.61	1729	30	113	5.89	10.66	698	45	EVAP 9 IN	990N	0.0	48.0
	200749	217	4.05	11.51	115	196	0.86	13.55	2452	31	189	4.21	11.55	1253	46	EVAP 7.5 IN	850N	0.0	53.0
	200749	231	3.98	11.47	107	192	0.80	13.53	2546	31	188	4.22	11.47	1476	46		1500N	-5.0	48.0
510275	100448	147	2.20	13.37	175	276	1.20	13.77	1830	31	163	4.68	11.51	1055	46	EVAP 9 IN	900N	0.0	50.0
	200765	161	2.83	12.90	107	301	0.89	14.00	2123	30	140	5.66	11.01	777	44	NO EVAP TEST	1700N	-5.0	48.0
	200765	148	1.64	13.67	104	234	1.11	13.89	1889	30	151	5.80	10.87	737	45		1300N	-5.0	48.0
510212	100369	193	2.28	13.21	106	169	1.67	13.46	777	23	249	1.30	13.64	1903	37	EVAP 10 IN	800N	0.0	44.0
	200717	732	0.27	12.52	106	192	0.02	12.54	1389	23	186	0.35	12.92	2670	38	EVAP 3 IN	725N	0.0	47.0
	200717	138	0.14	13.63	114	187	0.09	12.78	1985	24	185	0.54	13.19	2738	38		850N	0.0	47.0

APPENDIX F

VEHICLE KEY MODE STATISTICS

1. Legend and Interpretation of Vehicle KEY MODE Statistics Tables.

2. Tables:
   - F-1 Houston
   - F-2 Los Angeles
   - F-3 Detroit
   - F-4 Denver
   - F-5 All Cities
   - F-6 All Cities (Excluding Denver)

LEGEND AND INTERPRETATION
OF KEY MODE STATISTICS TABLES

Key Words	Description
PHASE	This indicates the vehicle test phase. 1 = Phase I (Green Engine) 2 = Phase II (Stabilized Engine) 2-1 = Phase II - Phase I (Difference)
KEY MODE STATISTICS	Clayton KEY MODE statistical information at idle, low cruise, and high cruise conditions in parts per million (volume) for hydrocarbons and nitrogen oxides, and in percent (volume) for carbon monoxide.
N	Number of cars tested within each make for the indicated emittant, test phase, and KEY MODE condition.
MEAN	Indicates mean emission results for each make, vehicle test phase, and KEY MODE condition.
S.D.	Indicates standard deviations about the mean emission results for each make, vehicle test phase, and KEY MODE condition.

TABLE F-1

Houston

HOUSTON 1971 VEHICLE KEYMODE STATISTICS - HYDROCARBONS

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
1	9	151.00	54.39	9	123.56	33.71	9	98.00	33.46
2	9	166.00	79.28	9	148.22	24.11	9	110.44	27.22
2-1	9	15.00	49.52	9	24.67	22.34	9	12.44	20.26
CHRYSLER CORP									
1	10	178.60	91.47	10	99.30	21.67	10	83.10	23.47
2	10	209.90	85.89	10	129.80	31.47	10	113.20	33.34
2-1	10	31.30	147.37	10	30.50	26.29	10	30.10	27.48
FORD MOTORS									
1	14	189.71	68.61	14	127.79	29.74	14	114.07	32.91
2	14	429.86	533.12	14	221.86	113.37	14	183.43	68.82
2-1	14	240.14	511.61	14	94.07	92.47	14	69.36	62.35
CHEVROLET									
1	13	179.69	74.78	13	84.46	26.94	13	67.38	20.87
2	13	259.46	162.71	13	159.08	88.61	13	111.00	68.29
2-1	13	79.77	174.92	13	74.62	73.55	13	43.62	59.86
OLDSMOBILE									
1	5	72.80	22.43	5	71.20	14.92	5	41.40	12.88
2	5	136.20	61.26	5	96.00	19.79	5	68.60	27.68
2-1	5	63.40	47.64	5	24.80	14.58	5	27.20	15.71
BUICK									
1	4	109.75	9.88	4	53.75	11.59	4	43.50	13.53
2	4	185.00	91.73	4	90.00	83.59	4	78.50	66.25
2-1	4	75.25	97.75	4	36.25	89.96	4	35.00	76.26
CADILLAC									
1	1	48.00	0.0	1	47.00	0.0	1	30.00	0.0
2	1	61.00	0.0	1	59.00	0.0	1	47.00	0.0
2-1	1	13.00	0.0	1	12.00	0.0	1	17.00	0.0
ALL GENERAL MOTORS									
1	23	138.57	75.24	23	74.61	25.07	23	55.96	21.84
2	23	211.09	141.69	23	129.00	81.17	23	93.35	61.18
2-1	23	72.52	136.44	23	54.39	68.37	23	37.39	53.47
VOLKSWAGEN									
1	9	137.44	53.70	9	123.44	29.85	9	115.67	23.71
2	9	182.22	71.18	9	168.22	53.59	9	149.89	56.62
2-1	9	44.78	102.51	9	44.78	49.90	9	34.22	58.23
ALL MANUFACTURERS									
1	65	157.31	72.78	65	103.40	35.49	65	86.74	36.24
2	65	247.78	276.75	65	157.22	82.41	65	126.00	64.36
2-1	65	90.48	266.27	65	53.82	66.22	65	39.26	51.68

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HOUSTON 1971 VEHICLE KEYMODE STATISTICS - CARBON MONOXIDE

	IDLE			LOW CRUISE			HIGH CRUISE		
PHASE	N	MEAN	S.D.	N	MEAN	S.D.	N	MEAN	S.D.
AMERICAN MOTORS									
1	9	1.94	1.41	9	0.54	0.51	9	0.41	0.38
2	9	2.38	2.12	9	0.30	0.38	9	0.21	0.12
2-1	9	0.44	2.16	9	-0.24	0.26	9	-0.20	0.37
CHRYSLER CORP									
1	10	2.51	1.31	10	0.63	0.59	10	0.94	0.55
2	10	4.31	2.58	10	0.74	0.80	10	0.89	0.59
2-1	10	1.80	2.26	10	0.11	0.63	10	-0.05	0.80
FORD MOTORS									
1	14	4.44	2.92	14	0.35	0.47	14	0.37	0.45
2	14	5.69	2.94	14	1.51	2.53	14	0.75	1.34
2-1	14	1.25	2.61	14	1.16	2.23	14	0.38	1.40
CHEVROLET									
1	13	2.03	1.64	13	0.45	0.78	13	0.64	0.60
2	13	3.09	2.76	13	0.58	0.85	13	0.84	1.09
2-1	13	1.06	3.00	13	0.12	1.06	13	0.20	1.03
OLDSMOBILE									
1	5	0.46	0.30	5	0.32	0.16	5	0.18	0.16
2	5	1.41	1.43	5	0.22	0.17	5	0.20	0.14
2-1	5	0.95	1.65	5	-0.10	0.26	5	0.02	0.02
BUICK									
1	4	0.91	0.29	4	0.38	0.28	4	0.33	0.36
2	4	3.77	2.96	4	0.43	0.48	4	0.24	0.20
2-1	4	2.86	2.83	4	0.05	0.66	4	-0.10	0.48
CADILLAC									
1	1	0.27	0.0	1	0.78	0.0	1	0.16	0.0
2	1	0.34	0.0	1	0.46	0.0	1	0.24	0.0
2-1	1	0.07	0.0	1	-0.32	0.0	1	0.08	0.0
ALL GENERAL MOTORS									
1	23	1.42	1.43	23	0.43	0.60	23	0.47	0.51
2	23	2.73	2.58	23	0.47	0.68	23	0.57	0.87
2-1	23	1.31	2.66	23	0.04	0.83	23	0.10	0.79
VOLKSWAGEN									
1	9	2.21	1.34	9	1.29	1.19	9	1.28	1.09
2	9	2.84	2.18	9	2.01	1.74	9	1.39	1.31
2-1	9	0.62	1.67	9	0.72	0.84	9	0.11	1.12
ALL MANUFACTURERS									
1	65	2.42	2.11	65	0.58	0.72	65	0.62	0.67
2	65	3.57	2.78	65	0.93	1.52	65	0.72	1.00
2-1	65	1.16	2.38	65	0.35	1.29	65	0.10	0.95

HOUSTON 1971 VEHICLE KEYMODE STATISTICS - NITROGEN OXIDE

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
1	9	184.89	207.45	9	1640.44	298.89	9	2699.22	663.05
2	9	89.78	25.30	9	1845.78	538.76	9	3011.33	998.40
2-1	9	-95.11	210.72	9	205.33	434.70	9	312.11	914.00
CHRYSLER CORP									
1	10	103.40	60.98	10	1623.50	865.66	10	2228.50	685.63
2	10	69.40	24.70	10	1704.90	712.21	10	2644.40	721.29
2-1	10	-34.00	68.06	10	81.40	428.79	10	415.90	256.27
FORD MOTORS									
1	14	110.14	48.39	14	1531.43	605.30	14	2476.93	400.37
2	14	110.93	61.84	14	1245.79	851.55	14	2448.86	785.81
2-1	14	0.79	44.97	14	-285.64	619.00	14	-28.07	745.09
CHEVROLET									
1	13	131.00	57.89	13	927.85	370.57	13	1412.08	372.88
2	13	155.62	119.07	13	1656.92	873.94	13	2059.77	662.48
2-1	13	24.62	92.77	13	729.08	728.18	13	647.69	664.85
OLDSMOBILE									
1	5	148.40	62.57	5	1375.20	147.87	5	1751.00	303.22
2	5	105.40	33.03	5	1274.60	490.28	5	2156.40	450.67
2-1	5	-43.00	44.13	5	-100.60	562.17	5	405.40	643.83
BUICK									
1	4	134.25	22.38		812.25	207.66	4	1813.50	301.59
2	4	83.50	39.42		669.50	76.20	4	1847.50	765.99
2-1	4	-50.75	36.98	4	-142.75	156.39	4	34.00	489.22
CADILLAC									
1	1	83.00	0.0	1	781.00	0.0	1	1508.00	0.0
2	1	67.00	0.0	1	615.00	0.0	1	1422.00	0.0
2-1	1	-16.00	0.0	1	-166.00	0.0	1	-86.00	0.0
ALL GENERAL MOTORS									
1	23	133.26	52.71	23	998.61	358.35	23	1559.74	371.46
2	23	128.30	96.12	23	1356.78	791.68	23	2016.13	618.98
2-1	23	-4.96	80.42	23	358.17	732.98	23	456.39	645.86
VOLKSWAGEN									
1	9	85.00	43.53	9	1181.22	607.46	9	1905.44	501.20
2	9	100.67	55.16	9	652.22	359.52	9	1598.00	546.64
2-1	9	15.67	21.91	9	-529.00	597.10	9	-307.44	593.85
ALL MANUFACTURERS									
1	65	124.15	91.89	65	1323.66	599.72	65	2065.82	652.41
2	65	106.34	70.24	65	1356.58	782.03	65	2285.89	827.55
2-1	65	-17.82	100.35	65	32.92	682.44	65	220.08	702.67

TABLE F-2

Los Angeles

LOS ANGELES 1971 VEHICLE KEYMODE STATISTICS - HYDROCARBONS

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
1	8	128.13	38.59	8	73.63	35.55	8	62.25	30.29
2	8	172.75	81.32	8	94.88	55.90	8	69.63	38.79
2-1	8	44.63	104.00	8	21.25	47.20	8	7.38	30.76
CHRYSLER CORP									
1	23	133.96	102.08	23	85.22	74.15	23	70.09	23.46
2	23	115.74	53.84	23	123.17	134.86	23	81.87	36.11
2-1	23	-18.22	98.34	23	37.96	159.48	23	11.78	30.47
FORD MOTORS									
1	30	100.47	51.73	30	66.37	29.17	30	65.40	29.91
2	30	104.53	64.76	30	84.23	40.45	30	74.67	36.89
2-1	30	4.07	63.31	30	17.87	39.78	30	9.27	28.18
CHEVROLET									
1	22	129.91	70.46	22	56.95	23.60	22	39.59	19.52
2	22	195.91	166.56	22	74.95	28.69	22	54.82	26.89
2-1	22	66.00	180.20	22	18.00	34.63	22	15.23	27.38
PONTIAC									
1	6	86.83	22.27	6	54.00	15.11	6	45.00	16.96
2	6	157.83	165.07	6	89.83	32.61	6	74.67	45.37
2-1	6	71.00	159.75	6	35.83	20.61	6	29.67	33.79
OLDSMOBILE									
1	4	65.75	13.23	4	54.50	13.53	4	39.75	3.69
2	4	80.25	38.46	4	89.00	53.69	4	55.50	17.25
2-1	4	14.50	42.18	4	34.50	41.99	4	15.75	17.27
BUICK									
1	6	81.33	16.13	6	42.83	10.83	6	31.00	9.74
2	6	168.00	156.52	6	86.67	70.84	6	53.00	20.00
2-1	6	86.67	163.23	6	43.83	74.06	6	22.00	27.35
CADILLAC									
1	2	27.50	0.71	2	25.00	9.90	2	16.50	3.54
2	2	25.50	6.36	2	34.50	7.78	2	19.50	3.54
2-1	2	-2.00	5.66	2	9.50	2.12	2	3.00	0.0
ALL GENERAL MOTORS									
1	40	104.63	61.13	40	52.55	20.64	40	37.98	17.21
2	40	165.93	154.82	40	78.33	39.92	40	55.83	29.19
2-1	40	61.30	157.69	40	25.78	40.75	40	17.85	26.62
VOLKSWAGEN									
1	11	149.45	63.53	11	88.73	34.70	11	79.18	17.67
2	11	228.36	228.39	11	117.00	48.64	11	99.91	39.95
2-1	11	78.91	233.63	11	28.27	71.88	11	20.73	40.60
ALL MANUFACTURERS									
1	112	115.62	69.53	112	68.02	42.93	112	57.70	27.71
2	112	145.79	129.34	112	94.10	73.11	112	71.54	36.68
2-1	112	30.18	136.27	112	26.08	81.81	112	13.84	29.47

LOS ANGELES 1971 VEHICLE KEYMODE STATISTICS - CARBON MONOXIDE

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
1	8	1.78	1.40	8	0.15	0.08	8	0.14	0.09
2	8	4.45	3.10	8	0.17	0.10	8	0.13	0.04
2-1	8	2.67	3.67	8	0.01	0.13	8	-0.02	0.08
CHRYSLER CORP									
1	23	2.47	1.46	23	0.52	0.65	23	0.68	0.65
2	23	2.96	2.48	23	0.54	0.61	23	0.55	0.63
2-1	23	0.49	2.84	23	0.02	0.97	23	-0.13	0.88
FORD MOTORS									
1	30	1.26	1.89	30	0.16	0.07	30	0.19	0.12
2	30	2.48	2.98	30	0.28	0.27	30	0.25	0.22
2-1	30	1.23	2.69	30	0.12	0.27	30	0.06	0.24
CHEVROLET									
1	22	1.57	1.78	22	0.27	0.18	22	0.33	0.46
2	22	2.20	3.27	22	0.13	0.04	22	0.38	0.51
2-1	22	0.63	3.53	22	-0.14	0.19	22	0.05	0.24
PONTIAC									
1	6	0.58	0.42	6	0.39	0.41	6	0.21	0.20
2	6	0.48	0.54	6	0.32	0.30	6	0.14	0.05
2-1	6	-0.10	0.37	6	-0.07	0.15	6	-0.07	0.16
OLDSMOBILE									
1	4	0.12	0.06	4	0.10	0.03	4	0.11	0.06
2	4	0.31	0.30	4	0.13	0.03	4	0.17	0.08
2-1	4	0.19	0.25	4	0.03	0.03	4	0.06	0.05
BUICK									
1	6	0.70	0.35	6	0.34	0.24	6	0.18	0.08
2	6	1.17	0.20	6	0.39	0.31	6	0.15	0.04
2-1	6	0.47	0.25	6	0.05	0.42	6	-0.03	0.09
CADILLAC									
1	2	0.67	0.42	2	0.45	0.32	2	0.08	0.02
2	2	0.89	0.28	2	0.83	0.36	2	0.19	0.06
2-1	2	0.22	0.14	2	0.38	0.04	2	0.10	0.04
ALL GENERAL MOTORS									
1	40	1.10	1.43	40	0.29	0.24	40	0.26	0.36
2	40	1.54	2.53	40	0.23	0.24	40	0.28	0.39
2-1	40	0.43	2.61	40	-0.06	0.25	40	0.02	0.19
VOLKSWAGEN									
1	11	2.44	1.78	11	0.81	0.85	11	0.69	0.61
2	11	3.51	1.96	11	1.06	0.75	11	0.90	0.61
2-1	11	1.07	1.42	11	0.26	1.21	11	0.21	0.64
ALL MANUFACTURERS									
1	112	1.60	1.68	112	0.34	0.46	112	0.36	0.46
2	112	2.48	2.74	112	0.39	0.48	112	0.38	0.47
2-1	112	0.88	2.70	112	0.04	0.61	112	0.02	0.48

LOS ANGELES 1971 VEHICLE KEYMODE STATISTICS - NITROGEN OXIDE

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
1	8	115.63	21.35	8	1496.25	533.14	8	2578.75	661.20
2	8	116.38	36.00	8	1705.88	803.82	8	3013.00	611.05
2-1	8	0.75	49.25	8	209.63	1082.29	8	434.25	475.91
CHRYSLER CORP									
1	23	115.04	33.37	23	1406.00	526.82	23	2369.26	624.26
2	23	122.96	41.70	23	1634.13	655.35	23	2999.13	684.18
2-1	23	7.91	57.08	23	228.13	633.45	23	629.87	874.16
FORD MOTORS									
1	30	283.20	138.26	30	1306.23	434.66	30	2225.50	477.14
2	30	242.37	132.51	30	1498.17	499.70	30	2788.80	732.73
2-1	30	-40.83	145.97	30	191.93	652.08	30	563.30	698.71
CHEVROLET									
1	22	250.59	154.95	22	1486.86	525.83	22	1809.23	520.10
2	22	218.77	148.10	22	1752.55	531.53	22	2173.95	644.37
2-1	22	-31.82	84.56	22	265.68	562.07	22	364.73	849.31
PONTIAC									
1	6	279.00	120.20	6	1593.83	299.50	6	2447.83	570.27
2	6	348.00	308.69	6	1378.67	224.65	6	2782.17	805.30
2-1	6	69.00	204.22	6	-215.17	313.85	6	334.33	563.95
OLDSMOBILE									
1	4	305.00	261.09	4	1585.75	531.69	4	2402.00	449.84
2	4	174.75	28.85	4	2255.25	814.59	4	3393.50	649.24
2-1	4	-130.25	254.09	4	669.50	501.02	4	991.50	322.68
BUICK									
1	6	169.50	52.36	6	932.00	198.98	6	1859.67	677.70
2	6	177.00	69.91	6	975.67	370.84	6	2467.33	1136.82
2-1	6	7.50	36.77	6	43.67	243.83	6	607.67	679.16
CADILLAC									
1	2	87.00	15.56	2	1236.50	697.91	2	1751.00	199.40
2	2	50.00	36.77	2	920.50	327.39	2	2632.00	685.89
2-1	2	-37.00	21.21	2	-316.00	370.52	2	881.00	486.49
ALL GENERAL MOTORS									
1	40	239.95	151.92	40	1417.05	498.04	40	1968.95	579.65
2	40	219.05	171.03	40	1588.60	615.00	40	2454.05	818.46
2-1	40	-20.90	130.47	40	171.55	530.41	40	485.10	742.10
VOLKSWAGEN									
1	11	101.64	39.45	11	1088.18	329.15	11	2516.45	408.82
2	11	118.09	53.53	11	954.09	409.41	11	2421.00	645.26
2-1	11	16.45	35.90	11	-134.09	427.84	11	-95.45	746.13
ALL MANUFACTURERS									
1	112	203.42	137.46	112	1358.46	479.84	112	2217.21	585.42
2	112	188.31	135.74	112	1519.79	614.69	112	2692.33	765.94
2-1	112	-15.11	113.49	112	161.33	624.39	112	475.13	759.22

TABLE F-3

Detroit

DETROIT 1971 VEHICLE KEYMODE STATISTICS - HYDROCARBONS

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
CHRYSLER CORP									
1	9	130.22	42.74	9	93.11	15.59	9	61.56	21.02
2	9	136.56	58.63	9	146.89	64.01	9	113.67	29.81
2-1	9	6.33	72.00	9	53.78	51.63	9	52.11	41.42
FORD MOTORS									
1	15	167.27	56.06	15	124.47	23.22	15	100.73	48.67
2	15	198.13	78.71	15	214.00	179.36	15	141.27	46.61
2-1	15	30.87	78.55	15	89.53	177.36	15	40.53	28.92
CHEVROLET									
1	13	164.31	57.74	13	64.77	21.79	13	47.00	14.62
2	13	296.92	226.74	13	317.85	592.50	13	105.46	48.89
2-1	13	132.62	202.21	13	253.08	589.51	13	58.46	40.60
PONTIAC									
1	2	145.00	53.74	2	102.00	25.46	2	71.00	36.77
2	2	225.50	123.74	2	122.00	9.90	2	119.00	2.83
2-1	2	80.50	177.48	2	20.00	35.36	2	48.00	33.94
OLDSMOBILE									
1	3	80.33	23.80	3	55.67	26.65	3	59.67	16.04
2	3	325.67	280.68	3	137.00	90.09	3	113.33	59.21
2-1	3	245.33	292.90	3	81.33	63.85	3	53.67	45.32
BUICK									
1	6	113.00	19.04	6	57.00	12.81	6	41.67	7.06
2	6	248.33	307.03	6	90.83	33.81	6	79.00	31.64
2-1	6	135.33	294.62	6	33.83	36.53	6	37.33	38.46
ALL GENERAL MOTORS									
1	24	139.38	54.62	24	64.79	22.81	24	49.25	16.63
2	24	282.42	236.18	24	222.17	442.28	24	100.96	44.22
2-1	24	143.04	225.42	24	157.38	439.96	24	51.71	38.62
ALL MANUFACTURERS									
1	48	146.38	54.05	48	88.75	34.07	48	67.65	38.02
2	48	228.73	182.00	48	205.50	326.84	48	115.94	45.56
2-1	48	82.35	177.26	48	116.75	326.17	48	48.29	36.04

DETROIT 1971 VEHICLE KEYMODE STATISTICS - CARBON MONOXIDE

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
CHRYSLER CORP									
1	9	3.47	1.81	9	0.67	0.56	9	0.96	0.80
2	9	2.38	1.93	9	0.51	0.51	9	0.81	0.66
2-1	9	-1.09	2.63	9	-0.16	0.55	9	-0.16	0.86
FORD MOTORS									
1	15	3.11	2.50	15	0.40	0.34	15	0.50	0.74
2	15	3.79	2.53	15	0.28	0.28	15	0.44	0.36
2-1	15	0.69	2.98	15	-0.12	0.43	15	-0.06	0.77
CHEVROLET									
1	13	2.29	1.34	13	0.24	0.24	13	0.38	0.35
2	13	3.70	2.90	13	0.67	1.05	13	0.51	0.51
2-1	13	1.41	3.24	13	0.43	1.06	13	0.13	0.51
PONTIAC									
1	2	3.58	2.39	2	0.91	0.20	2	0.57	0.52
2	2	4.98	5.94	2	0.16	0.11	2	0.55	0.62
2-1	2	1.40	8.33	2	-0.74	0.30	2	-0.03	1.14
OLDSMOBILE									
1	3	0.39	0.35	3	0.20	0.11	3	0.73	0.31
2	3	1.51	2.37	3	0.71	0.85	3	0.78	0.79
2-1	3	1.12	2.06	3	0.51	0.76	3	0.05	0.73
BUICK									
1	6	1.60	0.92	6	0.31	0.24	6	0.23	0.18
2	6	1.62	1.58	6	0.53	0.83	6	0.38	0.58
2-1	6	0.02	1.40	6	0.22	0.89	6	0.15	0.65
ALL GENERAL MOTORS									
1	24	1.99	1.42	24	0.31	0.29	24	0.40	0.34
2	24	3.01	2.89	24	0.60	0.90	24	0.51	0.54
2-1	24	1.02	3.10	24	0.29	0.96	24	0.11	0.57
ALL MANUFACTURERS									
1	48	2.62	1.95	48	0.41	0.38	48	0.54	0.61
2	48	3.14	2.62	48	0.48	0.70	48	0.54	0.52
2-1	48	0.52	3.03	48	0.07	0.78	48	0.01	0.69

DETROIT 1971 VEHICLE KEYMODE STATISTICS - NITROGEN OXIDE

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
CHRYSLER CORP									
1	9	96.56	36.53	9	1745.44	266.02	9	1423.78	242.14
2	9	109.00	30.82	9	1851.00	591.32	9	2243.89	675.67
2-1	9	12.44	49.78	9	105.56	487.66	9	820.11	677.58
FORD MOTORS									
1	15	167.87	98.82	15	1919.27	797.02	15	2206.13	621.09
2	15	132.60	53.59	15	2110.13	946.30	15	2757.27	647.13
2-1	15	-35.27	105.60	15	190.87	656.25	15	551.13	1010.40
CHEVROLET									
1	13	185.23	162.88	13	1496.46	558.27	13	1765.46	349.74
2	13	139.00	93.14	13	1382.54	614.54	13	2073.31	642.53
2-1	13	-46.23	147.27	13	-113.92	912.02	13	307.85	600.37
PONTIAC									
1	2	165.50	51.62	2	1506.00	168.29	2	2107.50	154.86
2	2	158.50	125.16	2	1497.50	243.95	2	2405.00	903.68
2-1	2	-7.00	176.78	2	-8.50	75.66	2	297.50	748.83
OLDSMOBILE									
1	3	297.67	148.41	3	1787.33	442.34	3	2311.67	335.01
2	3	187.33	21.83	3	1867.33	488.38	3	2750.67	352.81
2-1	3	-110.33	162.66	3	80.00	179.68	3	439.00	655.05
BUICK									
1	6	123.17	32.17	6	1082.67	227.12	6	2287.83	487.34
2	6	130.50	43.56	6	1037.83	343.62	6	2656.50	819.80
2-1	6	7.33	27.65	6	-44.83	364.34	6	368.67	550.78
ALL GENERAL MOTORS									
1	24	182.13	137.02	24	1430.17	493.14	24	1992.83	438.84
2	24	144.54	77.36	24	1366.54	555.49	24	2331.42	704.59
2-1	24	-37.58	128.38	24	-63.63	685.83	24	338.58	563.85
ALL MANUFACTURERS									
1	48	161.63	115.59	48	1642.13	608.09	48	1952.79	542.23
2	48	134.15	64.21	48	1689.75	769.40	48	2448.08	700.60
2-1	48	-27.48	110.39	48	47.63	642.22	48	495.29	756.02

TABLE F-4

Denver

DENVER 1971 VEHICLE KEYMODE STATISTICS - HYDROCARBONS

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
1	20	209.90	76.85	20	146.40	37.30	20	123.85	34.63
2	20	236.60	69.14	20	195.05	71.58	20	157.60	63.63
2-1	20	26.70	54.19	20	48.65	48.42	20	33.75	51.12
CHRYSLER CORP									
1	17	188.82	61.12	18	146.33	44.34	18	126.56	50.54
2	18	231.11	192.48	18	190.06	55.88	18	151.28	47.67
2-1	17	44.00	203.88	18	43.72	55.73	18	24.72	53.24
FORD MOTORS									
1	26	223.15	82.48	26	171.23	56.08	26	143.69	54.86
2	26	202.35	65.66	26	215.00	66.70	26	183.08	66.46
2-1	26	-20.81	97.90	26	43.77	43.71	26	39.38	37.68
CHEVROLET									
1	34	212.26	79.06	34	122.09	36.63	34	114.97	33.34
2	34	306.26	226.00	34	189.44	158.09	34	162.76	153.82
2-1	34	94.00	222.53	34	67.35	152.66	34	47.79	153.76
PONTIAC									
1	5	168.40	25.66	5	94.60	16.24	5	69.20	15.67
2	5	234.40	181.88	5	136.80	26.12	5	85.60	32.33
2-1	5	66.00	188.62	5	42.20	18.62	5	16.40	26.02
OLDSMOBILE									
1	6	140.50	51.89	6	101.67	24.76	6	79.67	34.26
2	6	139.33	70.84	6	123.83	41.93	6	94.83	53.77
2-1	6	-1.17	40.89	6	22.17	24.78	6	15.17	19.87
BUICK									
1	9	140.89	19.92	9	81.89	13.08	9	66.67	16.56
2	9	236.00	160.16	9	119.89	22.44	9	87.67	26.05
2-1	9	95.11	150.28	9	38.00	21.91	9	21.00	21.78
CADILLAC									
1	3	53.00	22.61	3	16.67	9.29	3	13.00	5.57
2	3	84.33	33.65	3	49.00	15.13	3	21.67	3.51
2-1	3	31.33	19.50	3	32.33	8.33	3	8.67	4.62
ALL GENERAL MOTORS									
1	57	181.21	77.23	57	105.63	39.79	57	94.25	40.41
2	57	259.61	203.17	57	159.54	129.02	57	129.56	127.47
2-1	57	78.40	190.04	57	53.91	119.08	57	35.32	119.69
VOLKSWAGEN									
1	23	262.48	135.78	23	224.65	104.33	23	143.43	41.04
2	23	199.26	131.22	23	199.17	85.75	23	152.83	32.66
2-1	23	-63.22	180.34	23	-25.48	124.34	23	9.39	49.24
ALL MANUFACTURERS									
1	143	206.83	92.04	144	147.24	70.86	144	119.18	48.47
2	144	232.88	158.89	144	184.63	99.76	144	149.55	92.10
2-1	143	26.27	169.93	144	37.40	98.59	144	30.37	83.76

DENVER 1971 VEHICLE KEYMODE STATISTICS - CARBON MONOXIDE

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
1	20	3.42	3.08	20	2.17	1.39	20	3.49	2.43
2	20	3.75	2.64	20	1.90	2.39	20	2.23	2.27
2-1	20	0.33	2.20	20	-0.27	1.96	20	-1.25	2.91
CHRYSLER CORP									
1	17	3.96	2.09	18	2.69	1.55	18	3.66	2.89
2	18	3.39	2.05	18	1.70	1.28	18	2.37	1.64
2-1	17	-0.46	2.40	18	-0.99	1.55	18	-1.29	2.91
FORD MOTORS									
1	26	3.92	1.69	26	1.64	0.65	26	2.38	2.16
2	26	3.74	2.48	26	0.93	0.59	26	1.48	1.62
2-1	26	-0.18	1.85	26	-0.71	0.82	26	-0.90	1.74
CHEVROLET									
1	34	3.61	2.65	34	2.52	1.70	34	4.20	3.08
2	34	2.69	2.22	34	1.12	0.84	34	1.91	0.97
2-1	34	-0.92	2.82	34	-1.40	1.45	34	-2.29	3.22
PONTIAC									
1	5	3.00	0.79	5	1.09	1.01	5	0.89	0.72
2	5	1.52	0.76	5	0.62	0.57	5	0.29	0.35
2-1	5	-1.48	0.35	5	-0.47	0.47	5	-0.59	0.57
OLDSMOBILE									
1	6	2.92	0.83	6	2.51	0.72	6	2.11	1.44
2	6	1.70	1.68	6	0.62	0.38	6	0.62	0.51
2-1	6	-1.22	1.89	6	-1.89	0.56	6	-1.49	0.96
BUICK									
1	9	2.17	0.79	9	1.13	0.34	9	1.74	1.67
2	9	1.96	1.12	9	0.95	0.47	9	0.76	0.59
2-1	9	-0.21	1.82	9	-0.18	0.47	9	-0.98	1.36
CADILLAC									
1	3	3.33	1.20	3	1.12	0.46	3	0.66	0.26
2	3	2.10	0.36	3	1.63	0.22	3	0.67	0.16
2-1	3	-1.22	1.56	3	0.52	0.59	3	0.01	0.42
ALL GENERAL MOTORS									
1	57	3.24	2.16	57	2.10	1.51	57	3.12	2.85
2	57	2.34	1.89	57	1.02	0.74	57	1.39	1.03
2-1	57	-0.90	2.38	57	-1.08	1.33	57	-1.73	2.66
VOLKSWAGEN									
1	23	5.38	2.52	23	2.34	1.32	23	4.01	1.49
2	23	3.58	2.62	23	1.73	1.37	23	2.79	1.73
2-1	23	-1.80	2.28	23	-0.60	0.90	23	-1.22	1.98
ALL MANUFACTURERS									
1	143	3.82	2.38	144	2.14	1.37	144	3.25	2.53
2	144	3.12	2.32	144	1.33	1.29	144	1.87	1.62
2-1	143	-0.69	2.32	144	-0.81	1.34	144	-1.38	2.47

DENVER 1971 VEHICLE KEYMODE STATISTICS - NITROGEN OXIDE

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
1	20	225.60	171.52	20	1582.60	691.26	20	1657.65	941.73
2	20	94.80	39.29	20	1707.90	763.34	20	2277.25	893.34
2-1	20	-130.80	148.23	20	125.30	722.40	20	619.60	867.23
CHRYSLER CORP									
1	17	111.41	24.80	18	1164.89	502.44	18	1278.56	679.39
2	18	125.39	98.54	18	1657.39	681.85	18	1842.67	733.87
2-1	17	10.35	88.71	18	492.50	715.47	18	564.11	820.96
FORD MOTORS									
1	26	176.12	55.42	26	1858.69	704.78	26	2045.27	845.14
2	26	166.46	77.57	26	2096.31	828.79	26	2485.27	808.35
2-1	26	-9.65	61.25	26	237.62	617.18	26	440.00	915.72
CHEVROLET									
1	34	189.74	111.95	34	833.32	314.89	34	967.38	542.69
2	34	196.50	124.79	34	1245.15	328.22	34	1575.32	455.94
2-1	34	6.76	124.29	34	411.82	370.95	34	607.94	634.80
PONTIAC									
1	5	273.40	195.57	5	1603.20	132.62	5	1923.80	278.30
2	5	191.00	72.24	5	1636.60	226.15	5	2434.00	752.93
2-1	5	-82.40	218.87	5	33.40	153.55	5	510.20	538.61
OLDSMOBILE									
1	6	163.50	56.89	6	1084.83	276.16	6	1557.83	378.75
2	6	130.50	45.01	6	1927.67	357.49	6	2672.83	312.43
2-1	6	-33.00	58.17	6	842.83	281.10	6	1115.00	624.45
BUICK									
1	9	171.56	42.73	9	1137.11	324.68	9	1534.00	619.77
2	9	124.33	46.62	9	1147.78	311.59	9	2133.11	689.36
2-1	9	-47.22	80.65	9	10.67	139.20	9	599.11	481.68
CADILLAC									
1	3	68.33	38.66	3	643.00	176.55	3	950.00	112.33
2	3	80.33	44.60	3	809.00	88.48	3	1190.33	264.89
2-1	3	12.00	31.00	3	166.00	142.43	3	240.33	197.22
ALL GENERAL MOTORS									
1	57	185.05	110.63	57	965.28	376.05	57	1201.98	601.53
2	57	171.56	107.28	57	1313.00	404.12	57	1833.98	653.33
2-1	57	-13.49	121.33	57	347.72	388.49	57	632.00	602.16
VOLKSWAGEN									
1	23	112.30	29.70	23	1073.74	548.72	23	1437.70	608.90
2	23	125.30	84.18	23	1432.83	815.92	23	1848.13	807.99
2-1	23	13.00	88.02	23	359.09	404.98	23	410.43	901.94
ALL MANUFACTURERS									
1	143	168.64	104.84	144	1254.60	634.88	144	1464.75	771.23
2	144	146.82	93.99	144	1571.47	708.86	144	2016.49	789.30
2-1	143	-22.10	116.37	144	316.86	540.32	144	551.74	776.21

TABLE F-5

All Cities

ALL CITIES 1971 VEHICLE KEYMODE STATISTICS - HYDROCARBONS

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
1	37	177.89	73.24	37	125.11	45.54	37	104.24	40.93
2	37	205.62	79.82	37	162.00	71.39	37	127.11	62.57
2-1	37	27.73	65.59	37	36.89	44.16	37	22.86	42.43
CHRYSLER CORP									
1	59	156.76	85.04	60	107.08	58.46	60	87.92	42.13
2	60	169.17	126.79	60	147.90	96.04	60	112.68	47.49
2-1	59	11.85	141.25	60	40.82	104.38	60	24.77	41.17
FORD MOTORS									
1	85	164.48	82.69	85	118.81	57.52	85	103.60	52.97
2	85	204.55	244.52	85	169.80	115.27	85	137.49	72.71
2-1	85	40.07	232.53	85	50.99	93.08	85	33.89	43.37
CHEVROLET									
1	82	177.40	79.42	82	89.56	41.29	82	76.43	42.33
2	82	267.76	204.23	82	174.27	263.98	82	116.51	113.26
2-1	82	90.35	199.14	82	84.71	260.75	82	40.09	104.17
PONTIAC									
1	13	127.15	47.34	13	77.00	27.11	13	58.31	21.89
2	13	197.69	158.56	13	112.85	34.59	13	85.69	38.11
2-1	13	70.54	158.56	13	35.85	21.34	13	27.38	30.35
OLDSMOBILE									
1	18	95.06	46.07	18	75.06	27.72	18	56.83	27.22
2	18	156.39	136.13	18	110.56	49.30	18	81.89	44.10
2-1	18	61.33	138.94	18	35.50	38.58	18	25.06	25.87
BUICK									
1	25	114.92	28.54	25	62.04	19.75	25	48.40	18.99
2	25	214.48	188.39	25	100.16	50.55	25	75.80	35.40
2-1	25	99.56	181.17	25	38.12	51.04	25	27.40	37.50
CADILLAC									
1	6	43.67	19.11	6	24.50	13.87	6	17.00	7.64
2	6	60.83	35.94	6	45.83	13.99	6	25.17	11.09
2-1	6	17.17	20.72	6	21.33	13.22	6	8.17	5.91
ALL GENERAL MOTORS									
1	144	146.15	75.47	144	79.13	37.84	144	65.00	37.92
2	144	229.64	191.78	144	142.54	204.43	144	98.53	91.57
2-1	144	83.49	180.90	144	63.42	199.46	144	33.53	81.31
VOLKSWAGEN									
1	43	207.40	121.48	43	168.70	99.93	43	121.19	42.46
2	43	203.14	150.57	43	171.67	78.50	43	138.67	45.60
2-1	43	-4.26	190.43	43	2.98	103.86	43	17.49	49.06
ALL MANUFACTURERS									
1	368	162.43	86.68	369	107.86	63.37	369	88.10	47.66
2	369	208.53	184.83	369	155.04	148.70	369	117.35	75.80
2-1	368	46.11	184.20	369	47.18	144.77	369	29.25	61.29

ALL CITIES 1971 VEHICLE KEYMODE STATISTICS - CARBON MONOXIDE

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
1	37	2.71	2.54	37	1.34	1.39	37	2.02	2.40
2	37	3.57	2.66	37	1.13	1.93	37	1.29	1.95
2-1	37	0.86	2.67	37	-0.20	1.43	37	-0.73	2.20
CHRYSLER CORP									
1	59	3.06	1.79	60	1.21	1.38	60	1.66	2.11
2	60	3.23	2.32	60	0.92	1.01	60	1.19	1.29
2-1	59	0.20	2.69	60	-0.29	1.17	60	-0.47	1.79
FORD MOTORS									
1	85	2.92	2.47	85	0.69	0.77	85	0.94	1.57
2	85	3.63	2.91	85	0.68	1.16	85	0.74	1.17
2-1	85	0.71	2.54	85	-0.01	1.19	85	-0.20	1.25
CHEVROLET									
1	82	2.60	2.26	82	1.23	1.58	82	1.99	2.74
2	82	2.78	2.72	82	0.70	0.85	82	1.11	1.07
2-1	82	0.18	3.20	82	-0.53	1.33	82	-0.89	2.42
PONTIAC									
1	13	1.97	1.61	13	0.74	0.73	13	0.53	0.56
2	13	1.57	2.40	13	0.41	0.42	13	0.26	0.31
2-1	13	-0.40	2.64	13	-0.33	0.40	13	-0.26	0.55
OLDSMOBILE									
1	18	1.19	1.36	18	0.98	1.19	18	0.90	1.20
2	18	1.28	1.51	18	0.42	0.44	18	0.43	0.47
2-1	18	0.09	1.79	18	-0.57	1.07	18	-0.47	0.94
BUICK									
1	25	1.48	0.90	25	0.62	0.47	25	0.78	1.22
2	25	1.98	1.67	25	0.63	0.57	25	0.44	0.51
2-1	25	0.50	1.93	25	0.01	0.59	25	-0.34	0.99
CADILLAC									
1	6	1.93	1.72	6	0.84	0.46	6	0.39	0.35
2	6	1.40	0.83	6	1.17	0.56	6	0.44	0.28
2-1	6	-0.53	1.25	6	0.33	0.50	6	0.05	0.27
ALL GENERAL MOTORS									
1	144	2.15	1.97	144	1.03	1.31	144	1.45	2.26
2	144	2.29	2.41	144	0.64	0.73	144	0.80	0.92
2-1	144	0.14	2.74	144	-0.39	1.13	144	-0.64	1.92
VOLKSWAGEN									
1	43	3.96	2.60	43	1.73	1.35	43	2.59	1.97
2	43	3.41	2.35	43	1.62	1.35	43	2.01	1.65
2-1	43	-0.56	2.36	43	-0.11	1.11	43	-0.58	1.70
ALL MANUFACTURERS									
1	368	2.74	2.27	369	1.09	1.27	369	1.56	2.12
2	369	3.01	2.59	369	0.86	1.16	369	1.04	1.32
2-1	368	0.27	2.66	369	-0.23	1.18	369	-0.51	1.77

ALL CITIES 1971 VEHICLE KEYMODE STATISTICS - NITROGEN OXIDE

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
1	37	191.92	164.66	37	1578.00	574.27	37	2110.16	948.72
2	37	98.24	36.15	37	1741.00	708.02	37	2614.89	923.66
2-1	37	-93.68	157.11	37	163.00	739.53	37	504.73	802.70
CHRYSLER CORP									
1	59	109.20	37.40	60	1420.83	585.87	60	1876.77	783.56
2	60	112.67	63.86	60	1685.43	651.46	60	2479.78	844.43
2-1	59	2.20	68.86	60	264.60	619.13	60	603.02	751.84
FORD MOTORS									
1	85	201.59	116.96	85	1620.49	667.63	85	2208.36	632.96
2	85	178.13	107.53	85	1747.55	823.05	85	2634.40	754.34
2-1	85	-23.46	104.56	85	127.06	652.41	85	426.04	847.43
CHEVROLET									
1	82	196.04	131.46	82	1128.78	527.49	82	1390.27	611.76
2	82	186.88	127.50	82	1468.34	579.63	82	1891.68	626.10
2-1	82	-9.16	115.26	82	339.56	633.07	82	501.41	699.54
PONTIAC									
1	13	259.38	143.99	13	1583.92	216.36	13	2193.92	476.66
2	13	258.46	224.32	13	1496.15	241.15	13	2590.23	749.36
2-1	13	-0.92	202.89	13	-87.77	254.28	13	396.31	533.76
OLDSMOBILE									
1	18	213.11	147.79	18	1393.89	412.64	18	1924.72	499.15
2	18	142.83	45.94	18	1809.00	612.97	18	2702.50	605.23
2-1	18	-70.28	133.41	18	415.11	568.80	18	777.78	626.89
BUICK									
1	25	153.48	44.00	25	1022.84	273.44	25	1837.80	608.30
2	25	131.92	57.03	25	1003.56	336.49	25	2293.24	851.06
2-1	25	-21.56	59.91	25	-19.28	231.49	25	455.44	558.18
CADILLAC									
1	6	77.00	27.17	6	863.83	442.80	6	1310.00	419.99
2	6	68.00	35.88	6	813.83	192.46	6	1709.50	800.51
2-1	6	-9.00	32.59	6	-50.00	307.51	6	399.50	466.87
ALL GENERAL MOTORS									
1	144	191.54	125.57	144	1173.58	481.40	144	1603.98	642.58
2	144	173.34	126.17	144	1405.47	571.48	144	2118.22	749.47
2-1	144	-18.20	118.98	144	231.90	563.67	144	514.24	647.29
VOLKSWAGEN									
1	43	103.86	36.19	43	1099.93	505.59	43	1811.56	700.29
2	43	118.30	71.19	43	1146.98	721.24	43	1942.33	767.00
2-1	43	14.44	66.78	43	47.05	574.82	43	130.77	850.42
ALL MANUFACTURERS									
1	368	170.45	117.79	369	1348.70	592.19	369	1862.50	744.74
2	369	150.63	105.81	369	1533.31	707.48	369	2325.22	825.46
2-1	368	-19.92	111.66	369	184.62	615.01	369	462.72	761.94

TABLE F-6

All Cities (Excluding Denver)

THREE CITIES 1971 VEHICLE KEYMODE STATISTICS - HYDROCARBONS

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
1	17	140.24	47.64	17	100.06	42.20	17	81.18	36.05
2	17	169.18	77.77	17	123.12	49.10	17	91.24	38.34
2-1	17	28.94	78.68	17	23.06	35.03	17	10.06	25.02
CHRYSLER CORP									
1	42	143.79	90.41	42	90.26	56.01	42	71.36	23.62
2	42	142.62	73.23	42	129.83	104.24	42	96.14	37.01
2-1	42	-1.17	106.77	42	39.57	119.94	42	24.79	35.56
FORD MOTORS									
1	59	138.63	68.90	59	95.71	40.76	59	85.93	41.56
2	59	205.53	291.09	59	149.88	126.52	59	117.41	66.41
2-1	59	66.90	267.92	59	54.17	108.12	59	31.47	45.75
CHEVROLET									
1	48	152.71	70.57	48	66.52	26.23	48	49.13	21.73
2	48	240.48	184.91	48	163.52	319.79	48	83.75	53.40
2-1	48	87.77	183.18	48	97.00	316.93	48	34.63	45.02
PONTIAC									
1	8	101.38	38.62	8	66.00	27.38	8	51.50	23.31
2	8	174.75	150.44	8	97.88	31.55	8	85.75	43.50
2-1	8	73.38	150.82	8	31.88	23.15	8	34.25	32.43
OLDSMOBILE									
1	12	72.33	19.16	12	61.75	18.16	12	45.42	13.61
2	12	164.92	161.62	12	103.92	53.03	12	75.42	39.43
2-1	12	92.58	160.86	12	42.17	43.31	12	30.00	27.83
BUICK									
1	16	100.31	21.43	16	50.88	12.80	16	38.13	10.86
2	16	202.38	206.56	16	89.06	58.78	16	69.13	38.88
2-1	16	102.06	201.14	16	38.19	62.55	16	31.00	44.25
CADILLAC									
1	3	34.33	11.85	3	32.33	14.50	3	21.00	8.19
2	3	37.33	20.98	3	42.67	15.18	3	28.67	16.07
2-1	3	3.00	9.54	3	10.33	2.08	3	7.67	8.08
ALL GENERAL MOTORS									
1	87	123.18	65.10	87	61.76	24.07	87	45.84	19.74
2	87	210.00	182.46	87	131.40	241.52	87	78.20	48.02
2-1	87	86.82	175.70	87	69.64	238.37	87	32.36	40.75
VOLKSWAGEN									
1	20	144.05	58.10	20	104.35	36.37	20	95.60	27.35
2	20	207.60	173.61	20	140.05	56.02	20	122.40	53.30
2-1	20	63.55	182.91	20	35.70	61.95	20	26.80	48.40
ALL MANUFACTURERS									
1	225	134.22	69.87	225	82.66	41.91	225	68.21	34.84
2	225	192.95	198.45	225	136.10	170.43	225	96.74	54.14
2-1	225	58.73	192.02	225	53.44	167.71	225	28.53	41.12

THREE CITIES 1971 VEHICLE KEYMODE STATISTICS - CARBON MONOXIDE

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
1	17	1.86	1.36	17	0.36	0.42	17	0.28	0.31
2	17	3.35	2.75	17	0.24	0.28	17	0.17	0.10
2-1	17	1.49	3.09	17	-0.12	0.24	17	-0.11	0.29
CHRYSLER CORP									
1	42	2.69	1.53	42	0.58	0.61	42	0.80	0.66
2	42	3.16	2.44	42	0.58	0.83	42	0.69	0.63
2-1	42	0.46	2.79	42	0.01	0.81	42	-0.12	0.84
FORD MOTORS									
1	59	2.48	2.64	59	0.27	0.30	59	0.31	0.45
2	59	3.58	3.10	59	0.57	1.33	59	0.42	0.71
2-1	59	1.10	2.71	59	0.30	1.20	59	0.11	0.80
CHEVROLET									
1	48	1.89	1.63	48	0.31	0.44	48	0.43	0.49
2	48	2.85	3.04	48	0.40	0.73	48	0.54	0.72
2-1	48	0.96	3.26	48	0.09	0.80	48	0.11	0.60
PONTIAC									
1	8	1.33	1.69	8	0.52	0.43	8	0.30	0.31
2	8	1.61	3.09	8	0.20	0.27	8	0.25	0.30
2-1	8	0.28	3.24	8	-0.24	0.36	8	-0.06	0.45
OLDSMOBILE									
1	12	0.33	0.28	12	0.22	0.15	12	0.29	0.31
2	12	1.07	1.45	12	0.31	0.45	12	0.34	0.44
2-1	12	0.74	1.39	12	0.10	0.44	12	0.04	0.31
BUICK									
1	16	1.09	0.71	16	0.34	0.23	16	0.24	0.21
2	16	1.99	1.94	16	0.45	0.56	16	0.26	0.36
2-1	16	0.90	1.92	16	0.11	0.65	16	0.02	0.45
CADILLAC									
1	3	0.54	0.38	3	0.56	0.29	3	0.11	0.05
2	3	0.71	0.38	3	0.71	0.33	3	0.21	0.05
2-1	3	0.17	0.13	3	0.15	0.41	3	0.10	0.03
ALL GENERAL MOTORS									
1	87	1.43	1.46	87	0.33	0.38	87	0.35	0.41
2	87	2.26	2.70	87	0.40	0.62	87	0.42	0.60
2-1	87	0.83	2.76	87	0.06	0.69	87	0.07	0.52
VOLKSWAGEN									
1	20	2.34	1.56	20	1.03	1.02	20	0.96	0.89
2	20	3.21	2.04	20	1.49	1.34	20	1.12	0.99
2-1	20	0.87	1.51	20	0.46	1.06	20	0.17	0.86
ALL MANUFACTURERS									
1	225	2.05	1.92	225	0.42	0.54	225	0.47	0.57
2	225	2.94	2.75	225	0.56	0.97	225	0.51	0.69
2-1	225	0.88	2.68	225	0.14	0.89	225	0.04	0.69

THREE CITIES 1971 VEHICLE KEYMODE STATISTICS - NITROGEN OXIDE

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
1	17	152.29	151.61	17	1572.59	417.76	17	2642.53	644.15
2	17	102.29	32.78	17	1779.94	658.02	17	3012.12	813.48
2-1	17	-50.00	160.30	17	207.35	779.07	17	369.59	721.62
CHRYSLER CORP									
1	42	108.31	41.66	42	1530.52	590.06	42	2133.14	683.88
2	42	107.21	41.72	42	1697.45	646.11	42	2752.83	740.42
2-1	42	-1.10	59.39	42	166.93	553.88	42	619.69	730.09
FORD MOTORS									
1	59	212.81	134.42	59	1515.53	628.33	59	2280.24	505.16
2	59	183.27	118.59	59	1593.86	771.75	59	2700.12	726.70
2-1	59	-29.54	118.72	59	78.34	666.61	59	419.88	823.70
CHEVROLET									
1	48	200.50	144.69	48	1338.06	543.57	48	1689.81	466.03
2	48	180.06	130.26	48	1626.44	664.69	48	2115.77	637.13
2-1	48	-20.44	108.33	48	288.38	766.57	48	425.96	739.18
PONTIAC									
1	8	250.63	116.02	8	1571.88	264.14	8	2362.75	510.43
2	8	300.63	279.28	8	1408.38	218.12	8	2687.88	781.26
2-1	8	50.00	188.39	8	-163.50	283.42	8	325.13	554.59
OLDSMOBILE									
1	12	237.92	173.99	12	1548.42	387.73	12	2108.17	457.94
2	12	149.00	47.08	12	1749.67	714.88	12	2717.33	721.82
2-1	12	-88.92	157.58	12	201.25	580.72	12	609.17	580.58
BUICK									
1	16	143.31	42.63	16	958.56	226.20	16	2008.69	548.33
2	16	136.19	63.18	16	922.44	331.48	16	2383.31	938.83
2-1	16	-7.13	40.69	16	-36.13	273.07	16	374.63	596.17
CADILLAC									
1	3	85.67	11.24	3	1084.67	559.20	3	1670.00	198.31
2	3	55.67	27.79	3	818.67	291.04	3	2228.67	850.45
2-1	3	-30.00	19.29	3	-266.00	275.94	3	558.67	655.77
ALL GENERAL MOTORS									
1	87	195.79	134.92	87	1310.05	435.65	87	1867.36	523.14
2	87	174.51	137.74	87	1466.06	653.70	87	2304.45	753.27
2-1	87	-21.29	118.02	87	156.01	644.45	87	437.09	667.35
VOLKSWAGEN									
1	20	94.15	41.10	20	1130.05	463.30	20	2241.50	539.44
2	20	110.25	53.56	20	818.25	407.90	20	2050.65	722.09
2-1	20	16.10	29.67	20	-311.80	535.80	20	-190.85	673.20
ALL MANUFACTURERS									
1	225	171.60	125.54	225	1408.92	556.31	225	2117.06	603.89
2	225	153.08	112.86	225	1508.90	707.10	225	2522.81	788.17
2-1	225	-18.53	108.81	225	99.98	645.42	225	405.75	748.84

APPENDIX G

VEHICLE HOT START STATISTICS
(Before And After Idle Adjustment - Phase II)

1. Legend and Interpretation of Hot Start Statistical Tables.

2. Tables:

G-1	Houston
G-2	Los Angeles
G-3	Detroit
G-4	Denver
G-5	All Cities
G-6	All Cities (Excluding Denver)

LEGEND AND INTERPRETATION
OF VEHICLE HOT START STATISTICAL TABLES

Key Words	Description
PHAS	This indicates the vehicle test phase. 2 = Phase II (Stabilized Engine As Received). H = Phase II (After resetting idle to manufacturer's specifications). H-2 = Differences (After Adjustments - Before Adjustments).
CYCLE 6-7	Represents the corrected and weighted emission results of the hot cycle portion of the Federal 7-mode test, and the last two cycles of the 3-cycle Hot Start test. The results are measured in parts per million (volume) for hydrocarbons and nitrogen oxides, and in percent (volume) for carbon monoxide.
NO	Nitrogen oxides as dry NO, at test conditions.
NOC	Nitrogen oxides as dry NO, corrected for humidity.
N	Number of cars tested within each make for the indicated emittant and vehicle test phase.
MEAN	Indicates mean emission results within each make for the indicated emittant and vehicle test phase.
S.D.	Indicates standard deviations about the mean emission results within each make for the indicated emittant and vehicle test phase.

TABLE G-1

HOUSTON CITY 1971 VEHICLE HOT CYCLE STATISTICS

PHAS	-CYCLES 6-7 HC- N	MEAN	S.D.	--CYCLES 6-7 CO-- N	MEAN	S.D.	--CYCLES 6-7 NO----- N	MEAN	S.D.	NOC---- MEAN	S.D.
AMER											
2	9	198	45	9	1.31	0.74	9	1451	383	1620	394
H	9	162	51	9	0.70	0.48	9	1355	445	1500	441
H-2	9	-36	51	9	-0.61	0.48	9	-95	353	-119	389
CHRY											
2	10	213	74	10	1.73	0.89	10	1513	622	1540	656
H	10	144	40	10	0.65	0.18	10	1594	426	1614	455
H-2	10	-68	41	10	-1.08	0.90	10	81	271	74	262
FORD											
2	14	304	191	14	2.15	1.90	14	1416	685	1562	709
H	14	223	92	14	1.22	1.50	14	1564	643	1739	690
H-2	14	-81	137	14	-0.92	0.98	14	147	351	176	392
CHEV											
2	13	183	81	13	1.17	1.14	12	1066	295	1126	282
H	12	192	81	12	1.05	0.81	12	1036	261	1110	258
H-2	12	-1	39	12	-0.20	0.85	11	-60	216	-61	235
PONT											
2	0	0	0	0	0.0	0.0	0	0	0	0	0
H	0	0	0	0	0.0	0.0	0	0	0	0	0
H-2	0	0	0	0	0.0	0.0	0	0	0	0	0
OLDS											
2	5	93	33	5	0.46	0.20	5	777	317	905	370
H	4	99	35	4	0.36	0.19	4	921	366	1062	417
H-2	4	0	2	4	-0.14	0.19	4	72	132	78	144
BUIC											
2	4	107	70	4	0.99	0.84	4	572	73	634	39
H	2	108	84	2	0.93	0.47	2	623	105	819	191
H-2	2	-26	20	2	-0.48	0.71	2	28	5	153	183
CADI											
2	1	51	0	1	0.36	0.0	1	737	0	781	0
H	1	53	0	1	0.25	0.0	1	855	0	906	0
H-2	1	2	0	1	-0.11	0.0	1	118	0	125	0
G.M.											
2	23	144	81	23	0.95	0.95	22	896	327	971	325
H	19	157	84	19	0.85	0.72	19	958	286	1059	285
H-2	19	-3	32	19	-0.21	0.70	18	-11	187	4	213
VOLK											
2	9	245	66	9	2.24	1.56	9	1141	414	1279	450
H	6	211	53	6	2.37	1.59	6	1051	519	1138	506
H-2	6	-37	33	6	-0.20	0.40	6	-26	86	-18	98
ALL											
2	65	211	122	65	1.56	1.35	64	1219	543	1324	568
H	58	177	77	58	1.04	1.09	58	1285	527	1345	548
H-2	58	-42	79	58	-0.59	0.83	57	29	277	36	304

TABLE G-2 378<

LOS ANGELES CITY 1971 VEHICLE HOT CYCLE STATISTICS

PHAS	-CYCLES 6-7 HC- N	MEAN	S.D.	--CYCLES 6-7 CO-- N	MEAN	S.D.	--CYCLES 6-7 NO----- N	MEAN	S.D.	----NOC---- MEAN	S.D.
AMER											
2	8	139	32	8	1.19	0.69	8	1021	407	947	354
H	8	109	18	8	1.14	0.73	8	945	361	876	320
H-2	8	-29	37	8	-0.05	0.21	8	-75	237	-71	216
CHRY											
2	23	116	39	23	1.36	1.00	23	1018	447	974	419
H	22	110	35	22	1.01	0.92	22	940	440	904	444
H-2	22	-6	33	22	-0.40	0.70	22	-42	199	-40	187
FORD											
2	30	113	60	30	0.85	0.73	30	1077	395	1035	385
H	30	130	72	30	0.69	0.62	30	1140	453	1085	429
H-2	30	16	70	30	-0.16	0.57	30	62	331	49	318
CHEV											
2	22	164	211	22	0.57	0.65	22	1019	296	1005	280
H	22	152	190	22	0.57	0.49	22	1032	357	1012	335
H-2	22	-12	25	22	0.01	0.56	22	13	164	7	161
PONT											
2	6	113	37	6	0.62	0.76	6	764	178	760	173
H	6	147	135	6	0.31	0.24	6	843	259	839	256
H-2	6	34	114	6	-0.31	0.52	6	78	87	78	87
OLDS											
2	4	75	73	4	0.18	0.05	4	1181	481	1120	393
H	4	81	79	4	0.17	0.05	4	1269	506	1194	419
H-2	4	6	8	4	-0.01	0.01	4	88	47	74	61
BUIC											
2	6	105	78	6	0.54	0.20	6	706	170	687	160
H	6	106	77	6	0.46	0.16	6	746	226	722	215
H-2	6	1	14	6	-0.09	0.13	6	39	96	35	92
CADI											
2	2	45	8	2	0.52	0.26	2	767	133	763	90
H	2	44	14	2	1.12	1.07	2	526	171	531	201
H-2	2	-1	5	2	0.60	0.81	2	-241	305	-232	291
G.M.											
2	40	133	164	40	0.53	0.57	40	937	312	920	288
H	40	132	155	40	0.50	0.46	40	959	369	937	341
H-2	40	0	48	40	-0.03	0.51	40	21	154	16	151
VOLK											
2	11	232	101	11	2.15	0.81	11	1020	343	992	326
H	11	231	98	11	1.92	0.75	11	1105	505	1066	455
H-2	11	-1	49	11	-0.22	0.50	11	84	307	73	294
ALL											
2	112	134	113	112	0.99	0.89	112	1006	372	971	350
H	111	135	110	111	0.84	0.77	111	1018	422	979	399
H-2	111	0	52	111	-0.16	0.56	111	19	243	13	233

TABLE G-3

DETROIT CITY 1971 VEHICLE HOT CYCLE STATISTICS

PHAS	-CYCLES 6-7 HC- N	MEAN	S.D.	--CYCLES 6-7 CO-- N	MEAN	S.D.	--CYCLES 6-7 NO----- N	MEAN	S.D.	NOC---- MEAN	S.D.
AMER											
2	0	0	0	0	0.0	0.0	0	0	0	0	0
H	0	0	0	0	0.0	0.0	0	0	0	0	0
H-2	0	0	0	0	0.0	0.0	0	0	0	0	0
CHRY											
2	9	177	52	9	1.41	0.80	9	1135	343	1108	286
H	9	202	115	9	0.82	0.61	9	1239	313	1220	308
H-2	9	24	108	9	-0.59	0.45	9	104	291	112	296
FORD											
2	15	233	57	15	1.04	0.46	15	1448	525	1434	508
H	15	207	65	15	0.44	0.23	15	1559	538	1538	514
H-2	15	-26	56	15	-0.60	0.47	15	111	253	103	246
CHEV											
2	13	241	168	13	1.18	1.17	13	889	242	883	248
H	13	160	73	13	0.95	0.78	13	870	254	863	259
H-2	13	-81	157	13	-0.22	0.61	13	-19	175	-20	174
PONT											
2	2	141	76	2	1.99	2.34	2	480	138	524	222
H	2	106	1	2	0.58	0.40	2	535	24	571	56
H-2	2	-35	77	2	-1.41	1.94	2	55	163	46	166
OLDS											
2	3	207	166	3	0.73	0.72	3	866	254	904	315
H	3	318	299	3	0.73	0.78	3	970	394	1018	461
H-2	3	111	133	3	0.00	0.06	3	104	170	113	175
BUIC											
2	6	143	89	6	0.56	0.43	6	687	128	675	101
H	6	158	94	6	0.71	0.63	6	693	152	686	151
H-2	6	15	11	6	0.13	0.22	6	6	102	11	102
CADI											
2	0	0	0	0	0.0	0.0	0	0	0	0	0
H	0	0	0	0	0.0	0.0	0	0	0	0	0
H-2	0	0	0	0	0.0	0.0	0	0	0	0	0
G.M.											
2	24	204	145	24	1.04	1.10	24	801	240	804	247
H	24	175	125	24	0.83	0.69	24	810	260	814	273
H-2	24	-29	139	24	-0.21	0.73	24	8	154	9	155
VOLK											
2	0	0	0	0	0.0	0.0	0	0	0	0	0
H	0	0	0	0	0.0	0.0	0	0	0	0	0
H-2	0	0	0	0	0.0	0.0	0	0	0	0	0
ALL											
2	48	208	110	48	1.11	0.88	48	1066	462	1058	446
H	48	190	107	48	0.71	0.59	48	1125	499	1116	486
H-2	48	-18	113	48	-0.40	0.63	48	58	218	58	217

TABLE 6-4 372

DENVER CITY 1971 VEHICLE HOT CYCLE STATISTICS

PHAS	-CYCLES 6-7 HC- N	MEAN	S.D.	--CYCLES 6-7 CO-- N	MEAN	S.D.	--CYCLES 6-7 NO----- N	MEAN	S.D.	NOC---- MEAN	S.D.
AMER											
2	20	262	101	20	2.59	2.13	20	930	412	912	424
H	20	242	131	20	2.67	2.20	20	835	367	817	379
H-2	20	-20	58	20	0.08	0.73	20	-95	208	-95	206
CHRY											
2	18	241	68	18	2.54	0.81	18	1023	484	975	459
H	18	230	62	18	2.31	0.69	18	1008	371	956	345
H-2	18	-10	42	18	-0.24	0.61	18	-15	253	-18	234
FORD											
2	26	259	98	26	1.63	0.68	26	1463	508	1355	476
H	26	286	132	26	1.73	0.70	26	1465	580	1358	539
H-2	26	26	72	26	0.09	0.42	26	1	284	3	263
CHEV											
2	34	327	591	34	1.94	1.00	34	753	200	728	208
H	34	304	588	34	2.06	1.13	34	703	191	680	196
H-2	34	-22	86	34	0.12	0.71	34	-49	151	-48	142
PONT											
2	5	158	51	5	0.91	0.68	5	805	77	749	39
H	5	210	60	5	0.76	0.70	5	910	282	849	276
H-2	5	52	95	5	-0.16	0.13	5	105	262	100	256
OLDS											
2	6	122	43	6	1.29	0.40	6	1022	236	966	202
H	6	167	65	6	1.41	0.65	6	907	171	859	143
H-2	6	45	46	6	0.12	0.40	6	-114	116	-106	113
BUIC											
2	9	168	78	9	1.54	0.70	9	568	211	518	186
H	9	205	77	9	1.61	0.79	9	546	201	498	178
H-2	9	37	26	9	0.07	0.17	9	-22	28	-20	25
CADI											
2	3	59	21	3	1.53	0.30	3	537	46	513	41
H	3	114	56	3	2.14	1.27	3	480	52	460	64
H-2	3	55	47	3	0.62	0.98	3	-56	46	-52	41
G.M.											
2	57	251	465	57	1.70	0.91	57	745	226	710	222
H	57	256	458	57	1.81	1.07	57	706	225	673	220
H-2	57	4	81	57	0.12	0.61	57	-38	149	-37	142
VOLK											
2	23	273	87	23	2.34	1.12	23	1197	356	1132	347
H	23	247	70	23	2.47	1.09	23	1104	326	1038	312
H-2	23	-25	42	23	0.13	0.51	23	-92	191	-93	185
ALL											
2	144	256	299	144	2.02	1.20	144	1007	455	955	430
H	144	255	298	144	2.08	1.24	144	962	455	910	425
H-2	144	-1	69	144	0.06	0.59	144	-45	207	-44	197

TABLE 6-5

ALL FOUR CITIES 1971 VEHICLE HOT CYCLE STATISTICS

PHAS	-CYCLES 6-7 HC- N	MEAN	S.D.	--CYCLES 6-7 CO-- N	MEAN	S.D.	--CYCLES 6-7 NO----- N	MEAN	S.D.	NOC---- MEAN	S.D.
AMER											
2	37	220	92	37	1.98	1.75	37	1077	449	1092	496
H	37	194	113	37	1.86	1.87	37	985	433	996	473
H-2	37	-26	51	37	-0.12	0.65	37	-91	248	-96	255
CHRY											
2	60	179	77	60	1.79	1.02	60	1119	500	1089	496
H	59	166	80	59	1.31	0.98	59	1117	457	1089	469
H-2	59	-13	60	59	-0.49	0.72	59	9	244	9	234
FORD											
2	85	211	126	85	1.34	1.07	85	1317	530	1290	529
H	85	206	114	85	1.05	0.95	85	1383	563	1356	569
H-2	85	-4	90	85	-0.29	0.70	85	66	307	65	305
CHEV											
2	82	247	405	82	1.33	1.11	81	893	278	887	286
H	81	223	398	81	1.33	1.09	81	869	301	863	306
H-2	81	-26	88	81	-0.01	0.68	80	-28	167	-30	166
PONT											
2	13	134	49	13	0.94	1.04	13	736	173	719	157
H	13	165	102	13	0.52	0.50	13	821	268	802	252
H-2	13	30	99	13	-0.42	0.79	13	85	169	82	166
OLDS											
2	18	117	83	18	0.72	0.57	18	963	336	973	301
H	17	157	145	17	0.75	0.71	17	1006	353	1014	341
H-2	17	37	67	17	0.01	0.26	17	15	146	18	147
BUIC											
2	25	137	79	25	0.98	0.71	25	630	171	615	158
H	23	158	88	23	1.02	0.77	23	643	199	633	206
H-2	23	16	27	23	-0.00	0.28	23	5	74	17	92
CADI											
2	6	53	15	6	1.00	0.62	6	647	138	641	148
H	6	80	51	6	1.49	1.22	6	558	169	558	200
H-2	6	27	42	6	0.49	0.77	6	-89	194	-83	189
G.M.											
2	144	193	315	144	1.14	0.99	143	831	281	825	281
H	140	193	312	140	1.14	1.00	140	831	306	825	309
H-2	140	-3	82	140	-0.02	0.63	139	-9	157	-8	157
VOLK											
2	43	257	87	43	2.27	1.13	43	1140	364	1127	370
H	40	237	76	40	2.31	1.09	40	1096	400	1061	377
H-2	40	-20	44	40	-0.02	0.51	40	-34	228	-36	219
ALL											
2	369	205	213	369	1.51	1.19	368	1051	455	1037	456
H	361	197	210	361	1.35	1.18	361	1053	476	1037	477
H-2	361	-9	75	361	-0.17	0.67	360	0	235	0	233

TABLE G-6 37 <

DET. PHAS	HOUS. AND L.A. -CYCLES 6-7 HC- N	MEAN	S.D.	--CYCLES 6-7 CO-- N	MEAN	S.D.	--CYCLES 6-7 NO----- N	MEAN	S.D.	NOC---- MEAN	S.D.
1971 VEHICLE HOT CYCLE STATISTICS											
AMER											
2	17	170	49	17	1.25	0.70	17	1248	441	1303	502
H	17	137	46	17	0.91	0.63	17	1162	448	1207	495
H-2	17	-33	44	17	-0.35	0.46	17	-86	295	-96	311
CHRY											
2	42	152	66	42	1.46	0.93	42	1161	507	1137	509
H	41	138	70	41	0.88	0.74	41	1165	487	1147	507
H-2	41	-14	66	41	-0.61	0.75	41	19	243	21	237
FORD											
2	59	189	132	59	1.20	1.19	59	1252	531	1262	552
H	59	171	86	59	0.75	0.89	59	1347	557	1355	587
H-2	59	-17	95	59	-0.45	0.73	59	95	315	93	320
CHEV											
2	48	190	172	48	0.90	0.98	47	995	284	1002	281
H	47	165	140	47	0.80	0.68	47	988	311	996	305
H-2	47	-28	90	47	-0.11	0.65	46	-13	179	-17	182
PONT											
2	8	120	44	8	0.96	1.27	8	693	206	701	201
H	8	137	115	8	0.38	0.29	8	766	261	772	250
H-2	8	17	105	8	-0.58	1.00	8	73	96	70	98
OLDS											
2	12	115	100	12	0.43	0.40	12	934	382	976	348
H	11	152	177	11	0.39	0.43	11	1061	419	1098	392
H-2	11	32	78	11	-0.05	0.12	11	86	109	86	117
BUIC											
2	16	120	77	16	0.67	0.50	16	665	139	669	113
H	14	128	83	14	0.63	0.46	14	706	177	720	177
H-2	14	3	19	14	-0.05	0.33	14	23	88	41	110
CADI											
2	3	47	6	3	0.47	0.21	3	757	96	769	64
H	3	47	11	3	0.83	0.91	3	636	225	656	259
H-2	3	0	4	3	0.36	0.70	3	-121	299	-113	291
G.M.											
2	87	155	143	87	0.78	0.87	86	889	300	900	291
H	83	150	133	83	0.68	0.61	83	916	326	929	319
H-2	83	-9	83	83	-0.12	0.62	82	10	160	11	165
VOLK											
2	20	238	85	20	2.19	1.17	20	1075	372	1121	403
H	17	224	84	17	2.08	1.09	17	1085	494	1092	459
H-2	17	-14	46	17	-0.21	0.46	17	45	253	40	243
ALL											
2	225	172	121	225	1.18	1.06	224	1079	454	1090	466
H	217	158	104	217	0.86	0.84	217	1113	481	1120	492
H-2	217	-15	78	217	-0.33	0.68	216	30	247	29	250

APPENDIX H

KEY MODE TEST STATISTICS
(Before And After Idle Adjustments - Phase II)

1. Legend and Interpretation of KEY MODE Statistical Tables.

2. Tables:

H-1 Houston

H-2 Los Angeles

H-3 Detroit

H-4 Denver

H-5 All Cities

H-6 All Cities (Excluding Denver)

LEGEND AND INTERPRETATION
OF KEY MODE STATISTICAL TABLES

Key Words	Description
PHASE	This indicates the vehicle test phase. 2 = Phase II (Stabilized Engine As Received). H = Phase II (After resetting idle to manufacturer's specifications). H-2 = Differences (After Adjustments-Before Adjustments).
KEY MODE STATISTICS	Clayton KEY MODE statistical information at idle, low cruise, and high cruise in parts per million (volume) for hydrocarbons and nitrogen oxides, and in percent (volume) for carbon monoxide.
N	Number of cars tested within each make for the indicated emittant, vehicle test phase, and KEY MODE condition.
MEAN	Indicates mean emission results for each make vehicle test phase, and KEY MODE condition.
S.D.	Indicates standard deviations about the mean emission results for each make, vehicle test phase, and KEY MODE condition.

TABLE H-1

Houston

HOUSTON 1971 VEHICLE KEYMODE STATISTICS - HYDROCARBONS

	IDLE			LOW CRUISE			HIGH CRUISE		
PHASE	N	MEAN	S.D.	N	MEAN	S.D.	N	MEAN	S.D.
AMERICAN MOTORS									
2	9	166.00	79.28	9	148.22	24.11	9	110.44	27.22
H	9	108.22	43.88	9	136.89	30.86	9	98.78	32.05
H-2	9	-57.78	65.30	9	-11.33	15.68	9	-11.67	14.98
CHRYSLER CORP									
2	10	209.90	85.89	10	129.80	31.47	10	113.20	33.34
H	10	109.80	23.72	10	105.40	30.06	10	101.20	36.41
H-2	10	-100.10	85.27	10	-24.40	18.42	10	-12.00	7.44
FORD MOTORS									
2	14	429.86	533.12	14	221.86	113.37	14	183.43	68.82
H	14	199.57	111.01	14	186.14	73.39	14	171.14	55.04
H-2	14	-230.29	438.46	14	-35.71	54.21	14	-12.29	27.92
CHEVROLET									
2	13	259.46	162.71	13	159.08	88.61	13	111.00	68.29
H	12	212.50	118.49	12	150.08	85.49	12	110.75	61.75
H-2	12	-57.92	146.62	12	-19.08	57.44	12	-7.50	18.34
OLDSMOBILE									
2	5	136.20	61.26	5	96.00	19.79	5	68.60	27.68
H	4	125.75	53.28	4	97.25	28.37	4	74.25	36.15
H-2	4	-30.00	36.13	4	0.75	12.23	4	2.00	8.68
BUICK									
2	4	185.00	91.73	4	90.00	83.59	4	78.50	66.25
H	2	147.00	18.38	2	85.00	96.17	2	72.00	87.68
H-2	2	-82.50	108.19	2	-24.00	33.94	2	-14.50	19.09
CADILLAC									
2	1	61.00	0.0	1	59.00	0.0	1	47.00	0.0
H	1	39.00	0.0	1	55.00	0.0	1	46.00	0.0
H-2	1	-22.00	0.0	1	-4.00	0.0	1	-1.00	0.0
ALL GENERAL MOTORS									
2	23	211.09	141.69	23	129.00	81.17	23	93.35	61.18
H	19	178.21	107.94	19	127.11	78.43	19	95.58	58.55
H-2	19	-52.74	119.54	19	-14.63	46.76	19	-5.89	16.23
VOLKSWAGEN									
2	9	182.22	71.18	9	168.22	53.59	9	149.89	[illegible]
H	6	171.50	59.37	6	158.67	81.08	6	135.67	[illegible]
H-2	6	-8.17	44.47	6	-13.83	42.03	6	[illegible]	[illegible]
ALL MANUFACTURERS									
2	65	247.78	276.75	65	157.22	82.41	65	[illegible]	[illegible]
H	58	160.02	92.37	58	142.40	[illegible]	58	[illegible]	[illegible]
H-2	58	-99.93	237.40	58	[illegible]	[illegible]	58	[illegible]	[illegible]

HOUSTON 1971 VEHICLE KEYMODE STATISTICS - CARBON MONOXIDE

	IDLE			LOW CRUISE			HIGH CRUISE	
PHASE	N	MEAN	S.D.	N	MEAN	S.D.	N	MEAN	S.D.
AMERICAN MOTORS									
2	9	2.38	2.12	9	0.30	0.38	9	0.21	0.12
H	9	0.40	0.40	9	0.25	0.17	9	0.17	0.08
H-2	9	-1.98	1.98	9	-0.05	0.29	9	-0.04	0.08
CHRYSLER CORP									
2	10	4.31	2.58	10	0.74	0.80	10	0.89	0.59
H	10	0.86	0.54	10	0.23	0.09	10	0.68	0.46
H-2	10	-3.45	2.65	10	-0.51	0.74	10	-0.21	0.26
FORD MOTORS									
2	14	5.69	2.94	14	1.51	2.53	14	0.75	1.34
H	14	3.08	3.22	14	0.52	0.98	14	0.50	0.56
H-2	14	-2.61	2.11	14	-0.98	1.38	14	-0.25	1.22
CHEVROLET									
2	13	3.09	2.76	13	0.58	0.85	13	0.84	1.09
H	12	2.07	2.05	12	0.53	0.85	12	0.66	0.70
H-2	12	-1.26	3.19	12	-0.08	1.23	12	-0.24	0.46
OLDSMOBILE									
2	5	1.41	1.43	5	0.22	0.17	5	0.20	0.14
H	4	0.98	0.77	4	0.23	0.22	4	0.22	0.18
H-2	4	-0.64	1.22	4	-0.00	0.03	4	0.01	0.02
BUICK									
2	4	3.77	2.96	4	0.43	0.48	4	0.24	0.20
H	2	1.53	0.03	2	0.31	0.25	2	0.24	0.20
H-2	2	-3.29	4.66	2	-0.32	0.46	2	-0.09	0.10
CADILLAC									
2	1	0.34	0.0	1	0.46	0.0	1	0.24	0.0
H	1	0.19	0.0	1	0.34	0.0	1	0.16	0.0
H-2	1	-0.15	0.0	1	-0.12	0.0	1	-0.08	0.0
ALL GENERAL MOTORS									
2	23	2.73	2.58	23	0.47	0.68	23	0.57	0.87
H	19	1.69	1.73	19	0.44	0.69	19	0.50	0.59
H-2	19	-1.29	2.88	19	-0.09	0.97	19	-0.16	0.37
VOLKSWAGEN									
2	9	2.84	2.18	9	2.01	1.74	9	1.39	1.31
H	6	2.94	1.69	6	2.80	3.99	6	1.59	1.41
H-2	6	-0.51	1.35	6	0.28	3.04	6	-0.09	0.23
ALL MANUFACTURERS									
2	65	3.57	2.78	65	0.93	1.52	65	0.72	1.00
H	58	1.81	2.15	58	0.64	1.53	58	0.59	0.73
H-2	58	-2.01	2.52	58	-0.34	1.51	58	-0.16	0.64

HOUSTON 1971 VEHICLE KEYMODE STATISTICS - NITROGEN OXIDE

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
2	9	89.78	25.30	9	1845.78	538.76	9	3011.33	998.40
H	9	112.00	39.26	9	1689.22	694.90	9	2784.78	1084.16
H-2	9	22.22	36.81	9	-156.56	599.24	9	-226.56	521.90
CHRYSLER CORP									
2	10	69.40	24.70	10	1704.90	712.21	10	2644.40	721.29
H	10	110.60	50.99	10	1788.10	445.27	10	2538.50	710.14
H-2	10	41.20	34.15	10	83.20	396.08	10	-105.90	477.51
FORD MOTORS									
2	14	110.93	61.84	14	1245.79	851.55	14	2448.86	785.81
H	14	140.79	55.41	14	1471.29	745.03	14	2618.14	613.40
H-2	14	29.86	65.54	14	225.50	761.52	14	169.29	754.16
CHEVROLET									
2	13	155.62	119.07	13	1656.92	873.94	13	2059.77	662.48
H	12	138.58	127.55	12	1362.00	635.14	12	1984.00	644.47
H-2	12	-4.92	129.73	12	-369.33	653.78	12	-137.08	362.49
OLDSMOBILE									
2	5	105.40	33.03	5	1274.60	490.28	5	2156.40	450.67
H	4	115.00	23.93	4	1308.75	558.15	4	2088.00	446.90
H-2	4	0.50	32.71	4	33.75	14.17	4	-91.50	106.80
BUICK									
2	4	83.50	39.42	4	669.50	76.20	4	1847.50	765.99
H	2	130.00	45.25	2	684.50	190.21	2	1121.50	820.95
H-2	2	39.00	21.21	2	9.50	58.69	2	-180.50	79.90
CADILLAC									
2	1	67.00	0.0	1	615.00	0.0	1	1422.00	0.0
H	1	92.00	0.0	1	849.00	0.0	1	1796.00	0.0
H-2	1	25.00	0.0	1	234.00	0.0	1	374.00	0.0
ALL GENERAL MOTORS									
2	23	128.30	96.12	23	1356.78	791.68	23	2016.13	618.98
H	19	130.26	101.64	19	1252.47	595.02	19	1905.21	636.41
H-2	19	2.42	103.45	19	-212.84	554.85	19	-105.16	310.90
VOLKSWAGEN									
2	9	100.67	55.16	9	652.22	359.52	9	1598.00	546.64
H	6	103.00	53.14	6	741.50	355.29	6	1332.50	434.51
H-2	6	-2.83	26.79	6	115.50	168.54	6	-119.17	220.01
ALL MANUFACTURERS									
2	65	106.34	70.24	65	1356.58	782.03	65	2285.89	827.55
H	58	123.76	70.85	58	1412.55	664.96	58	2263.72	834.24
H-2	58	18.26	71.10	58	-13.29	583.98	58	-59.33	507.37

TABLE H-2

Los Angeles

LOS ANGELES 1971 VEHICLE KEYMODE STATISTICS - HYDROCARBONS

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
2	8	172.75	81.32	8	94.88	55.90	8	69.63	38.79
H	8	147.88	43.91	8	100.00	58.66	8	77.13	41.44
H-2	8	-24.88	66.64	8	5.13	5.22	8	7.50	11.99
CHRYSLER CORP									
2	23	115.74	53.84	23	123.17	134.86	23	81.87	36.11
H	22	116.41	62.05	22	126.27	137.07	22	92.45	40.54
H-2	22	-0.91	55.31	22	2.14	14.19	22	9.73	16.48
FORD MOTORS									
2	30	104.53	64.76	30	84.23	40.45	30	74.67	36.89
H	30	116.87	77.88	30	85.83	42.22	30	81.83	39.18
H-2	30	12.33	73.64	30	1.60	24.84	30	7.17	14.93
CHEVROLET									
2	22	195.91	166.56	22	74.95	28.69	22	54.82	26.89
H	21	155.38	78.47	21	83.24	38.11	21	64.24	34.81
H-2	21	-12.81	55.55	21	6.33	18.87	21	8.05	14.54
PONTIAC									
2	6	157.83	165.07	6	89.83	32.61	6	74.67	45.37
H	6	158.17	164.54	6	95.17	29.25	6	81.50	43.09
H-2	6	0.33	42.76	6	5.33	8.04	6	6.83	10.38
OLDSMOBILE									
2	4	80.25	38.46	4	89.00	53.69	4	55.50	17.25
H	4	70.50	43.59	4	93.50	57.21	4	57.75	23.07
H-2	4	-9.75	17.90	4	4.50	5.26	4	2.25	6.75
BUICK									
2	6	168.00	156.52	6	86.67	70.84	6	53.00	20.00
H	6	161.33	168.22	6	104.83	62.17	6	55.83	20.15
H-2	6	-6.67	25.09	6	18.17	28.74	6	2.83	11.30
CADILLAC									
2	2	25.50	6.36	2	34.50	7.78	2	19.50	3.54
H	2	24.00	5.66	2	31.50	7.78	2	21.00	4.24
H-2	2	-1.50	0.71	2	-3.00	0.0	2	1.50	0.71
ALL GENERAL MOTORS									
2	40	165.93	154.82	40	78.33	39.92	40	55.83	29.19
H	39	141.28	110.21	39	86.79	43.37	39	62.72	33.71
H-2	39	-8.95	44.70	39	7.33	18.25	39	6.13	12.35
VOLKSWAGEN									
2	11	228.36	228.39	11	117.00	48.64	11	99.91	39.95
H	11	170.82	56.28	11	115.45	56.92	11	130.91	69.45
H-2	11	-57.55	231.66	11	-1.55	56.93	11	31.00	64.53
ALL MANUFACTURERS									
2	112	145.79	129.34	112	94.10	73.11	112	71.54	36.68
H	110	133.08	85.54	110	98.25	74.47	110	81.75	45.52
H-2	110	-7.55	91.27	110	3.68	25.05	110	9.72	24.67

LOS ANGELES 1971 VEHICLE KEYMODE STATISTICS - CARBON MONOXIDE

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
2	8	4.45	3.10	8	0.17	0.10	8	0.13	0.04
H	8	3.85	2.74	8	0.18	0.13	8	0.14	0.06
H-2	8	-0.60	1.67	8	0.01	0.06	8	0.02	0.02
CHRYSLER CORP									
2	23	2.96	2.48	23	0.54	0.61	23	0.55	0.63
H	22	2.05	2.23	22	0.49	0.57	22	0.60	0.72
H-2	22	-1.00	1.56	22	-0.07	0.30	22	0.03	0.12
FORD MOTORS									
2	30	2.48	2.98	30	0.28	0.27	30	0.25	0.22
H	30	1.50	2.07	30	0.27	0.27	30	0.25	0.23
H-2	30	-0.99	2.15	30	-0.01	0.14	30	0.01	0.05
CHEVROLET									
2	22	2.20	3.27	22	0.13	0.04	22	0.38	0.51
H	21	1.79	2.85	21	0.16	0.08	21	0.38	0.50
H-2	21	-0.52	2.22	21	0.03	0.06	21	-0.01	0.13
PONTIAC									
2	6	0.48	0.54	6	0.32	0.30	6	0.14	0.05
H	6	0.34	0.35	6	0.35	0.28	6	0.17	0.04
H-2	6	-0.15	0.37	6	0.03	0.05	6	0.03	0.04
OLDSMOBILE									
2	4	0.31	0.30	4	0.13	0.03	4	0.17	0.08
H	4	0.28	0.26	4	0.13	0.04	4	0.15	0.05
H-2	4	-0.03	0.04	4	0.00	0.04	4	-0.02	0.04
BUICK									
2	6	1.17	0.20	6	0.39	0.31	6	0.15	0.04
H	6	0.90	0.18	6	0.48	0.32	6	0.13	0.02
H-2	6	-0.27	0.34	6	0.09	0.50	6	-0.02	0.04
CADILLAC									
2	2	0.89	0.28	2	0.83	0.36	2	0.19	0.06
H	2	0.88	0.32	2	0.97	0.47	2	0.28	0.14
H-2	2	-0.00	0.04	2	0.14	0.11	2	0.09	0.08
ALL GENERAL MOTORS									
2	40	1.54	2.53	40	0.23	0.24	40	0.28	0.39
H	39	1.23	2.17	39	0.28	0.27	39	0.28	0.38
H-2	39	-0.35	1.63	39	0.04	0.19	39	-0.00	0.10
VOLKSWAGEN									
2	11	3.51	1.96	11	1.06	0.75	11	0.90	0.61
H	11	3.13	2.16	11	0.93	0.89	11	0.97	0.78
H-2	11	-0.38	1.20	11	-0.14	0.97	11	0.07	0.55
ALL MANUFACTURERS									
2	112	2.48	2.74	112	0.39	0.48	112	0.38	0.47
H	110	1.85	2.30	110	0.38	0.47	110	0.40	0.53
H-2	110	-0.67	1.74	110	-0.02	0.35	110	0.02	0.19

LOS ANGELES 1971 VEHICLE KEYMODE STATISTICS - NITROGEN OXIDE

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
2	8	116.38	36.00	8	1705.88	803.82	8	3013.00	611.05
H	8	116.50	36.64	8	1720.38	628.88	8	3052.88	548.25
H-2	8	0.13	17.95	8	14.50	116.06	8	39.88	203.10
CHRYSLER CORP									
2	23	122.96	41.70	23	1634.13	655.35	23	2999.13	684.18
H	22	133.77	60.17	22	1511.23	598.08	22	2925.68	724.54
H-2	22	12.68	47.18	22	-76.36	137.09	22	-54.59	271.47
FORD MOTORS									
2	30	242.37	132.51	30	1498.17	499.70	30	2788.80	732.73
H	30	283.47	164.38	30	1425.47	625.39	30	2875.97	746.44
H-2	30	41.10	114.67	30	-72.70	429.59	30	87.17	471.34
CHEVROLET									
2	22	218.77	148.10	22	1752.55	531.53	22	2173.95	644.37
H	21	221.00	128.29	21	1856.57	620.30	21	2198.19	549.21
H-2	21	-3.52	54.78	21	44.62	331.64	21	-23.90	285.59
PONTIAC									
2	6	348.00	308.69	6	1378.67	224.65	6	2782.17	805.30
H	6	329.00	231.88	6	1286.50	223.19	6	2807.00	525.49
H-2	6	-19.00	293.37	6	-92.17	151.50	6	24.83	350.77
OLDSMOBILE									
2	4	174.75	28.85	4	2255.25	814.59	4	3393.50	649.24
H	4	170.50	34.32	4	2398.50	787.25	4	3417.00	587.31
H-2	4	-4.25	9.46	4	143.25	46.50	4	23.50	126.70
BUICK									
2	6	177.00	69.91	6	975.67	370.84	6	2467.33	1136.82
H	6	156.67	57.43	6	1039.67	392.89	6	2522.33	1270.82
H-2	6	-20.33	39.31	6	64.00	111.99	6	55.00	318.44
CADILLAC									
2	2	50.00	36.77	2	920.50	327.39	2	2632.00	685.89
H	2	54.50	23.33	2	832.50	355.67	2	2428.50	335.88
H-2	2	4.50	13.44	2	-88.00	28.28	2	-203.50	350.02
ALL GENERAL MOTORS									
2	40	219.05	171.03	40	1588.60	615.00	40	2454.05	818.46
H	39	214.00	143.00	39	1646.26	692.12	39	2478.54	769.02
H-2	39	-8.15	114.82	39	29.87	259.79	39	-8.62	282.85
VOLKSWAGEN									
2	11	118.09	53.53	11	954.09	409.41	11	2421.00	645.26
H	11	131.91	66.01	11	952.09	647.64	11	2393.45	411.14
H-2	11	13.82	45.58	11	-2.00	406.94	11	-27.55	468.84
ALL MANUFACTURERS									
2	112	188.31	135.74	112	1519.79	614.69	112	2692.33	765.94
H	110	201.60	139.11	110	1495.01	682.36	110	2709.62	738.41
H-2	110	12.25	95.52	110	-23.65	307.75	110	9.95	356.12

TABLE H-3

Detroit

DETROIT 1971 VEHICLE KEYMODE STATISTICS - HYDROCARBONS

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
CHRYSLER CORP									
2	9	136.56	58.63	9	146.89	64.01	9	113.67	29.81
H	9	148.11	123.37	9	149.56	61.20	9	116.33	31.59
H-2	9	11.56	113.55	9	2.67	8.41	9	2.67	24.22
FORD MOTORS									
2	15	198.13	78.71	15	214.00	179.36	15	141.27	46.61
H	15	158.67	116.56	15	164.67	31.41	15	139.60	50.27
H-2	15	-39.47	125.13	15	-49.33	181.52	15	-1.67	21.73
CHEVROLET									
2	13	296.92	226.74	13	317.85	592.50	13	105.46	48.89
H	13	195.92	90.80	13	128.00	40.68	13	89.54	35.11
H-2	13	-101.00	242.12	13	-189.85	568.41	13	-15.92	28.85
PONTIAC									
2	2	225.50	123.74	2	122.00	4.90	2	119.00	2.83
H	2	130.50	33.23	2	84.00	39.60	2	90.00	50.91
H-2	2	-95.00	156.98	2	-38.00	29.70	2	-29.00	53.74
OLDSMOBILE									
2	3	325.67	280.68	3	137.00	90.09	3	113.33	59.21
H	3	278.00	239.09	3	136.67	73.08	3	109.33	37.61
H-2	3	-47.67	51.05	3	-0.33	17.62	3	-4.00	21.70
BUICK									
2	6	248.33	307.03	6	90.83	33.81	6	79.00	31.64
H	6	239.00	311.18	6	89.83	39.37	6	80.50	27.49
H-2	6	-9.33	32.91	6	-1.00	31.77	6	1.50	27.79
ALL GENERAL MOTORS									
2	24	282.42	236.18	24	222.17	442.28	24	100.96	44.22
H	24	211.50	178.47	24	115.88	46.23	24	89.79	33.40
H-2	24	-70.92	183.69	24	-106.29	421.38	24	-11.17	29.29
ALL MANUFACTURERS									
2	48	228.73	182.00	48	205.50	326.84	48	115.94	45.56
H	48	183.10	151.86	48	137.44	49.80	48	110.33	44.32
H-2	48	-45.63	156.00	48	-68.06	313.90	48	-5.60	26.35

DETROIT 1971 VEHICLE KEYMODE STATISTICS - CARBON MONOXIDE

	IDLE			LOW CRUISE			HIGH CRUISE	
PHASE	N	MEAN	S.D.	N	MEAN	S.D.	N	MEAN	S.D.
CHRYSLER CORP									
2	9	2.38	1.93	9	0.51	0.51	9	0.81	0.66
H	9	0.90	1.68	9	0.49	0.47	9	0.83	0.58
H-2	9	-1.48	1.63	9	-0.02	0.13	9	0.02	0.36
FORD MOTORS									
2	15	3.79	2.53	15	0.28	0.28	15	0.44	0.36
H	15	0.94	1.25	15	0.25	0.21	15	0.35	0.45
H-2	15	-2.86	2.79	15	-0.02	0.11	15	-0.08	0.33
CHEVROLET									
2	13	3.70	2.90	13	0.67	1.05	13	0.51	0.51
H	13	1.37	1.21	13	0.29	0.21	13	0.32	0.31
H-2	13	-2.33	3.24	13	-0.37	0.96	13	-0.19	0.40
PONTIAC									
2	2	4.98	5.94	2	0.16	0.11	2	0.55	0.62
H	2	0.60	0.15	2	0.11	0.01	2	0.41	0.42
H-2	2	-4.37	6.09	2	-0.05	0.10	2	-0.14	0.20
OLDSMOBILE									
2	3	1.51	2.37	3	0.71	0.85	3	0.78	0.79
H	3	0.64	0.74	3	0.47	0.50	3	0.39	0.18
H-2	3	-0.87	1.65	3	-0.24	0.35	3	-0.39	0.88
BUICK									
2	6	1.62	1.58	6	0.53	0.83	6	0.38	0.58
H	6	1.01	0.72	6	0.23	0.14	6	0.19	0.12
H-2	6	-0.61	1.08	6	-0.30	0.73	6	-0.19	0.49
ALL GENERAL MOTORS									
2	24	3.01	2.89	24	0.60	0.90	24	0.51	0.54
H	24	1.13	1.01	24	0.29	0.24	24	0.31	0.26
H-2	24	-1.89	2.96	24	-0.31	0.79	24	-0.21	0.46
ALL MANUFACTURERS									
2	48	3.14	2.62	48	0.48	0.70	48	0.54	0.52
H	48	1.02	1.21	48	0.31	0.29	48	0.42	0.44
H-2	48	-2.11	2.71	48	-0.17	0.57	48	-0.13	0.41

DETROIT 1971 VEHICLE KEYMODE STATISTICS - NITROGEN OXIDE

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
CHRYSLER CORP									
2	9	109.00	30.82	9	1851.00	591.32	9	2243.89	675.67
H	9	104.22	36.58	9	1895.00	611.17	9	2311.89	537.28
H-2	9	-4.78	36.79	9	44.00	409.73	9	68.00	499.45
FORD MOTORS									
2	15	132.60	53.59	15	2110.13	946.30	15	2757.27	647.13
H	15	291.07	389.08	15	2179.80	889.14	15	2872.33	574.68
H-2	15	158.47	407.36	15	69.67	455.60	15	115.07	533.25
CHEVROLET									
2	13	139.00	93.14	13	1382.54	614.54	13	2073.31	642.53
H	13	211.54	174.22	13	1330.38	466.43	13	1863.23	537.67
H-2	13	72.54	175.88	13	-52.15	437.66	13	-210.08	500.70
PONTIAC									
2	2	158.50	125.16	2	1497.50	243.95	2	2405.00	903.68
H	2	167.50	23.33	2	1067.00	715.59	2	1586.50	764.38
H-2	2	9.00	101.82	2	-430.50	471.64	2	-818.50	1668.06
OLDSMOBILE									
2	3	187.33	21.83	3	1867.33	488.38	3	2750.67	352.81
H	3	208.67	47.12	3	1961.00	599.08	3	3037.33	730.01
H-2	3	21.33	27.02	3	93.67	116.42	3	286.67	590.15
BUICK									
2	6	130.50	43.56	6	1037.83	343.62	6	2656.50	819.80
H	6	143.83	38.39	6	1381.50	1070.01	6	2431.50	706.20
H-2	6	13.33	13.47	6	343.67	876.98	6	-225.00	628.59
ALL GENERAL MOTORS									
2	24	144.54	77.36	24	1366.54	555.49	24	2331.42	704.59
H	24	190.58	131.45	24	1400.04	685.12	24	2129.00	726.63
H-2	24	46.04	132.54	24	33.50	571.33	24	-202.42	657.52
ALL MANUFACTURERS									
2	48	134.15	64.21	48	1689.75	769.40	48	2448.08	700.60
H	48	205.79	241.23	48	1736.52	808.77	48	2395.58	718.37
H-2	48	71.65	249.23	48	46.77	500.40	48	-52.50	601.62

TABLE H-4

Denver

DENVER 1971 VEHICLE KEYMODE STATISTICS - HYDROCARBONS

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
2	20	236.60	69.14	20	195.05	71.58	20	157.60	63.63
H	20	204.90	71.41	20	184.85	75.90	20	154.20	69.25
H-2	20	-31.70	74.78	20	-10.20	21.03	20	-3.40	15.82
CHRYSLER CORP									
2	18	231.11	192.48	18	190.06	55.88	18	151.28	47.67
H	18	216.78	165.45	18	189.06	55.61	18	147.83	43.20
H-2	18	-14.33	59.29	18	-1.00	24.98	18	-3.44	18.72
FORD MOTORS									
2	26	202.35	65.66	26	215.00	66.70	26	183.08	66.46
H	26	260.08	115.13	26	230.62	80.66	26	200.92	85.53
H-2	26	57.73	109.73	26	15.62	44.41	26	17.85	66.39
CHEVROLET									
2	34	306.26	226.00	34	189.44	158.09	34	162.76	153.82
H	34	343.03	565.20	34	251.65	610.01	34	236.44	599.09
H-2	34	36.76	459.59	34	62.21	468.09	34	73.68	452.37
PONTIAC									
2	5	234.40	181.88	5	136.80	26.12	5	85.60	32.33
H	5	187.60	54.80	5	128.40	50.57	5	85.80	38.80
H-2	5	-46.80	143.96	5	-8.40	48.67	5	0.20	12.03
OLDSMOBILE									
2	6	139.33	70.84	6	123.83	41.93	6	94.83	53.77
H	6	147.67	69.08	6	126.50	53.13	6	94.33	58.50
H-2	6	8.33	13.68	6	2.67	14.33	6	-0.50	6.16
BUICK									
2	9	236.00	160.16	9	119.89	22.44	9	87.67	26.05
H	9	234.78	120.53	9	127.44	20.27	9	90.56	28.20
H-2	9	-1.22	46.45	9	7.56	19.94	9	2.89	11.37
CADILLAC									
2	3	84.33	33.65	3	49.00	15.13	3	21.67	3.51
H	3	77.00	28.16	3	48.67	11.06	3	22.00	4.36
H-2	3	-7.33	15.37	3	-0.33	6.51	3	0.33	1.53
ALL GENERAL MOTORS									
2	57	259.61	203.17	57	159.54	129.02	57	129.56	127.47
H	57	277.74	445.61	57	197.37	473.81	57	173.95	467.04
H-2	57	18.12	356.34	57	37.82	360.93	57	44.39	349.16
VOLKSWAGEN									
2	23	199.26	131.22	23	199.17	85.75	23	152.83	32.66
H	23	192.00	71.02	23	198.61	86.06	23	159.09	40.99
H-2	23	-7.26	137.18	23	-0.57	40.75	23	6.26	23.98
ALL MANUFACTURERS									
2	144	232.88	158.89	144	184.63	99.76	144	149.55	92.10
H	144	243.12	293.31	144	200.79	302.56	144	170.44	296.84
H-2	144	10.24	238.10	144	16.16	228.29	144	20.89	221.56

DENVER 1971 VEHICLE KEYMODE STATISTICS - CARBON MONOXIDE

	IDLE			LOW CRUISE			HIGH CRUISE	
PHASE	N	MEAN	S.D.	N	MEAN	S.D.	N	MEAN	S.D.
AMERICAN MOTORS									
2	20	3.75	2.64	20	1.90	2.39	20	2.23	2.27
H	20	3.17	2.59	20	1.84	2.36	20	2.32	2.28
H-2	20	-0.58	1.42	20	-0.05	0.32	20	0.09	0.32
CHRYSLER CORP									
2	18	3.39	2.05	18	1.70	1.28	18	2.37	1.64
H	18	3.26	2.15	18	1.59	1.13	18	2.33	1.60
H-2	18	-0.13	0.90	18	-0.11	0.37	18	-0.04	0.43
FORD MOTORS									
2	26	3.74	2.48	26	0.93	0.59	26	1.48	1.62
H	26	4.27	2.51	26	1.04	0.69	26	1.52	1.48
H-2	26	0.53	1.48	26	0.11	0.24	26	0.04	0.20
CHEVROLET									
2	34	2.69	2.22	34	1.12	0.84	34	1.91	0.97
H	34	2.35	1.96	34	1.10	0.82	34	2.41	2.12
H-2	34	-0.34	1.10	34	-0.02	0.30	34	0.50	1.92
PONTIAC									
2	5	1.52	0.76	5	0.62	0.57	5	0.29	0.35
H	5	1.12	0.85	5	0.51	0.67	5	0.31	0.43
H-2	5	-0.40	0.38	5	-0.11	0.24	5	0.02	0.10
OLDSMOBILE									
2	6	1.70	1.68	6	0.62	0.38	6	0.62	0.51
H	6	1.72	1.67	6	0.86	0.53	6	0.76	0.69
H-2	6	0.02	0.22	6	0.24	0.33	6	0.14	0.21
BUICK									
2	9	1.96	1.12	9	0.95	0.47	9	0.76	0.59
H	9	1.96	1.33	9	1.16	0.51	9	0.82	0.53
H-2	9	0.00	0.90	9	0.21	0.55	9	0.06	0.22
CADILLAC									
2	3	2.10	0.36	3	1.63	0.22	3	0.67	0.16
H	3	2.19	0.30	3	1.74	0.35	3	0.62	0.16
H-2	3	0.08	0.19	3	0.11	0.18	3	-0.06	0.06
ALL GENERAL MOTORS									
2	57	2.34	1.89	57	1.02	0.74	57	1.39	1.03
H	57	2.11	1.72	57	1.07	0.74	57	1.70	1.87
H-2	57	-0.23	0.94	57	0.04	0.35	57	0.32	1.50
VOLKSWAGEN									
2	23	3.58	2.62	23	1.73	1.37	23	2.79	1.73
H	23	3.74	2.71	23	1.82	1.51	23	2.85	1.71
H-2	23	0.17	0.54	23	0.09	0.40	23	0.06	0.34
ALL MANUFACTURERS									
2	144	3.12	2.32	144	1.33	1.29	144	1.87	1.62
H	144	3.05	2.35	144	1.36	1.29	144	2.02	1.85
H-2	144	-0.07	1.12	144	0.03	0.35	144	0.15	0.98

DENVER 1971 VEHICLE KEYMODE STATISTICS - NITROGEN OXIDE

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
2	20	94.80	39.29	20	1707.90	763.34	20	2277.25	893.34
H	20	104.50	47.97	20	1546.55	646.66	20	2086.35	861.02
H-2	20	9.70	36.95	20	-161.35	331.02	20	-190.90	325.26
CHRYSLER CORP									
2	18	125.39	98.54	18	1657.39	681.85	18	1842.67	733.87
H	18	127.94	104.89	18	1629.39	507.93	18	1823.83	611.09
H-2	18	2.56	17.63	18	-28.00	434.37	18	-18.83	309.86
FORD MOTORS									
2	26	166.46	77.57	26	2096.31	828.79	26	2485.27	808.35
H	26	145.65	83.78	26	2112.85	843.35	26	2542.62	822.82
H-2	26	-20.81	56.04	26	16.54	[illegible]	26	57.35	302.21
CHEVROLET									
2	34	196.50	124.79	34	[illegible]	328.22	34	1575.32	455.94
H	34	171.88	104.03	34	[illegible]	327.57	34	1393.71	562.57
H-2	34	-24.62	51.06	34	[illegible]	169.25	34	-181.62	429.48
PONTIAC									
2	5	191.00	72.24	5	[illegible]	226.15	5	2434.00	752.93
H	5	137.20	33.17	5	[illegible]	480.94	5	2607.20	1114.52
H-2	5	-53.80	78.87	5	[illegible]	517.11	5	173.20	582.91
OLDSMOBILE									
2	6	130.50	45.01	6	[illegible]	[illegible]	6	2672.83	312.43
H	6	113.67	44.53	6	[illegible]	348.34	6	2489.00	[illegible]
H-2	6	-16.83	32.62	6	[illegible]	181.47	6	-183.83	174.80
BUICK									
2	9	124.33	46.62	9	[illegible]	311.59	9	2133.11	689.36
H	9	104.78	47.83	9	[illegible]	366.14	9	2123.33	626.45
H-2	9	-19.56	28.17	9	[illegible]	234.48	9	-9.78	131.04
CADILLAC									
2	3	80.33	44.60	3	809.00	88.48	3	1190.33	264.89
H	3	81.00	43.97	3	744.67	105.51	3	1236.67	245.12
H-2	3	0.67	3.79	3	-64.33	50.88	3	46.33	34.79
ALL GENERAL MOTORS									
2	57	171.56	107.28	57	[illegible]	[illegible]	57	1833.98	653.33
H	57	147.33	89.74	57	1244.72	[illegible]	57	1722.39	761.66
H-2	57	-24.23	48.06	57	-68.28	[illegible]	57	-111.60	389.83
VOLKSWAGEN									
2	23	125.30	84.18	23	1432.83	815.92	23	1848.13	807.99
H	23	120.70	73.22	23	[illegible]	792.91	23	1802.43	743.37
H-2	23	-4.61	15.80	23	[illegible]	258.31	23	-45.70	208.49
ALL MANUFACTURERS									
2	144	146.82	93.99	144	1571.47	708.86	144	2016.49	789.30
H	144	134.40	84.91	144	1519.99	690.11	144	1946.50	816.12
H-2	144	-12.42	43.42	144	-51.47	290.96	144	-69.99	337.26

TABLE H-5

All Cities

ALL CITIES 1971 VEHICLE KEYMODE STATISTICS - HYDROCARBONS

	IDLE			LOW CRUISE			HIGH CRUISE		
PHASE	N	MEAN	S.D.	N	MEAN	S.D.	N	MEAN	S.D.
AMERICAN MOTORS									
2	37	205.62	79.82	37	162.00	71.39	37	127.11	62.57
H	37	169.05	72.34	37	154.84	71.90	37	124.05	65.17
H-2	37	-36.57	70.14	37	-7.16	18.34	37	-3.05	15.91
CHRYSLER CORP									
2	60	169.17	126.79	60	147.90	96.04	60	112.68	47.49
H	59	150.75	117.02	59	145.44	98.82	59	114.47	45.23
H-2	59	-19.92	80.33	59	-3.24	20.33	59	0.95	18.84
FORD MOTORS									
2	85	204.55	244.52	85	169.80	115.27	85	137.49	72.71
H	85	181.67	117.31	85	160.55	84.70	85	143.16	78.14
H-2	85	-22.88	217.92	85	-9.25	85.92	85	5.67	41.21
CHEVROLET									
2	82	267.76	204.23	82	174.27	263.98	82	116.51	113.25
H	80	250.29	380.79	80	172.11	402.85	80	148.51	396.17
H-2	80	-12.84	321.80	80	-5.61	385.72	80	29.71	295.33
PONTIAC									
2	13	197.69	158.56	13	112.85	34.59	13	85.69	38.11
H	13	165.23	113.17	13	106.23	41.09	13	84.46	38.75
H-2	13	-32.46	104.87	13	-6.62	33.57	13	-1.23	22.26
OLDSMOBILE									
2	18	156.39	136.13	18	110.56	49.30	18	81.89	44.10
H	17	147.35	119.66	17	113.65	51.42	17	83.65	44.13
H-2	17	-14.82	34.01	17	2.12	11.81	17	0.12	9.94
BUICK									
2	25	214.48	188.39	25	100.16	50.55	25	75.80	35.40
H	23	209.09	187.68	23	108.04	45.78	23	77.26	33.25
H-2	23	-11.83	47.06	23	5.35	27.39	23	1.00	17.10
CADILLAC									
2	6	60.83	35.94	6	45.83	13.99	6	25.17	11.09
H	6	53.00	32.32	6	44.00	12.68	6	25.67	10.52
H-2	6	-7.83	12.29	6	-1.83	4.45	6	0.50	1.38
ALL GENERAL MOTORS									
2	144	229.64	191.78	144	142.54	204.43	144	98.53	91.57
H	139	214.41	306.76	139	142.67	308.31	139	117.50	303.02
H-2	139	-14.53	246.51	139	-2.78	292.28	139	17.19	224.15
VOLKSWAGEN									
2	43	203.14	150.57	43	171.67	78.50	43	138.67	45.60
H	40	183.10	64.96	40	169.75	84.81	40	147.83	53.04
H-2	40	-21.23	158.56	40	-2.83	44.90	40	10.13	40.77
ALL MANUFACTURERS									
2	369	208.53	184.83	369	155.04	148.70	369	117.35	75.80
H	360	188.11	207.69	360	151.61	202.80	360	127.11	194.83
H-2	360	-20.39	196.93	360	-4.84	186.80	360	8.94	141.52

ALL CITIES 1971 VEHICLE KEYMODE STATISTICS - CARBON MONOXIDE

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
2	37	3.57	2.66	37	1.13	1.93	37	1.29	1.95
H	37	2.64	2.60	37	1.10	1.91	37	1.33	1.99
H-2	37	-0.92	1.69	37	-0.04	0.27	37	0.04	0.24
CHRYSLER CORP									
2	60	3.23	2.32	60	0.92	1.01	60	1.19	1.29
H	59	2.04	2.12	59	0.78	0.91	59	1.18	1.27
H-2	59	-1.22	1.96	59	-0.15	0.44	59	-0.03	0.31
FORD MOTORS									
2	85	3.63	2.91	85	0.68	1.16	85	0.74	1.17
H	85	2.51	2.65	85	0.54	0.67	85	0.70	1.03
H-2	85	-1.12	2.45	85	-0.14	0.88	85	-0.04	0.52
CHEVROLET									
2	82	2.78	2.72	82	0.70	0.85	82	1.11	1.07
H	80	2.00	2.14	80	0.64	0.75	80	1.27	1.73
H-2	80	-0.85	2.30	80	-0.07	0.64	80	0.14	1.31
PONTIAC									
2	13	1.57	2.40	13	0.41	0.42	13	0.26	0.31
H	13	0.68	0.66	13	0.37	0.45	13	0.26	0.30
H-2	13	-0.89	2.37	13	-0.04	0.16	13	-0.00	0.10
OLDSMOBILE									
2	18	1.28	1.51	18	0.42	0.44	18	0.43	0.47
H	17	1.02	1.19	17	0.47	0.48	17	0.42	0.48
H-2	17	-0.30	0.88	17	0.04	0.28	17	-0.03	0.38
BUICK									
2	25	1.98	1.67	25	0.63	0.57	25	0.44	0.51
H	23	1.40	1.00	23	0.67	0.55	23	0.43	0.46
H-2	23	-0.51	1.55	23	0.00	0.59	23	-0.04	0.29
CADILLAC									
2	6	1.40	0.83	6	1.17	0.56	6	0.44	0.28
H	6	1.42	0.91	6	1.25	0.66	6	0.43	0.24
H-2	6	0.02	0.15	6	0.08	0.16	6	-0.01	0.10
ALL GENERAL MOTORS									
2	144	2.29	2.41	144	0.64	0.73	144	0.80	0.92
H	139	1.63	1.80	139	0.62	0.67	139	0.90	1.41
H-2	139	-0.69	2.01	139	-0.04	0.55	139	0.07	1.01
VOLKSWAGEN									
2	43	3.41	2.35	43	1.62	1.35	43	2.01	1.65
H	40	3.45	2.41	40	1.72	1.97	40	2.14	1.67
H-2	40	-0.09	0.93	40	0.05	1.24	40	0.04	0.39
ALL MANUFACTURERS									
2	369	3.01	2.59	369	0.86	1.16	369	1.04	1.32
H	360	2.21	2.30	360	0.80	1.15	360	1.08	1.47
H-2	360	-0.84	2.02	360	-0.07	0.71	360	0.02	0.70

ALL CITIES 1971 VEHICLE KEYMODE STATISTICS - NITROGEN OXIDE

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
2	37	98.24	36.15	37	1741.00	708.02	37	2614.89	923.66
H	37	108.92	42.94	37	1618.84	684.13	37	2465.22	944.95
H-2	37	10.68	33.81	37	-122.16	381.51	37	-149.68	367.14
CHRYSLER CORP									
2	60	112.67	63.86	60	1685.43	651.46	60	2479.78	844.43
H	59	123.56	72.50	59	1652.75	554.48	59	2430.27	793.11
H-2	59	11.76	38.51	59	-16.20	330.58	59	-33.68	356.87
FORD MOTORS									
2	85	178.13	107.53	85	1747.55	823.05	85	2634.40	754.34
H	85	219.15	205.47	85	1776.39	829.62	85	2730.89	728.91
H-2	85	41.02	193.55	85	28.84	471.00	85	96.49	490.66
CHEVROLET									
2	82	186.88	127.50	82	1468.34	579.63	82	1891.68	626.10
H	80	186.23	128.15	80	1402.09	558.62	80	1769.73	654.50
H-2	80	-0.34	100.12	80	-97.10	381.24	80	-138.16	399.01
PONTIAC									
2	13	258.46	224.32	13	1496.15	241.15	13	2590.23	749.36
H	13	230.38	178.76	13	1443.92	474.00	13	2542.38	875.70
H-2	13	-28.08	199.35	13	-52.23	398.02	13	-47.85	719.99
OLDSMOBILE									
2	18	142.83	45.94	18	1809.00	612.97	18	2702.50	605.23
H	17	144.12	52.35	17	1830.18	642.52	17	2709.76	680.45
H-2	17	-3.06	28.76	17	-10.35	183.06	17	-30.29	295.92
BUICK									
2	25	131.92	57.03	25	1003.56	336.49	25	2293.24	851.06
H	23	130.70	50.15	23	1119.65	619.35	23	2220.70	896.87
H-2	23	-6.09	33.45	23	86.57	473.74	23	-63.87	364.35
CADILLAC									
2	6	68.00	35.88	6	813.83	192.46	6	1709.50	800.51
H	6	74.00	33.59	6	791.33	180.01	6	1727.17	623.41
H-2	6	6.00	11.49	6	-22.50	132.54	6	17.67	265.41
ALL GENERAL MOTORS									
2	144	173.34	126.17	144	1405.47	571.48	144	2118.22	749.47
H	139	171.17	119.06	139	1385.26	600.28	139	2029.74	799.30
H-2	139	-3.94	97.50	139	-42.93	375.98	139	-97.50	415.45
VOLKSWAGEN									
2	43	118.30	71.19	43	1146.98	721.24	43	1942.33	767.00
H	40	121.13	71.43	40	1101.45	746.59	40	1894.48	709.28
H-2	40	0.73	28.86	40	11.30	292.78	40	-51.73	296.60
ALL MANUFACTURERS									
2	369	150.63	105.81	369	1533.31	707.48	369	2325.22	825.46
H	360	162.74	135.80	360	1523.92	703.72	360	2290.66	843.68
H-2	360	11.27	114.79	360	-23.72	387.81	360	-41.51	416.27

TABLE H-6

All Cities (Excluding Denver)

THREE CITIES 1971 VEHICLE KEYMODE STATISTICS - HYDROCARBONS

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
2	17	169.18	77.77	17	123.12	49.10	17	91.24	38.34
H	17	126.88	47.14	17	119.53	48.39	17	88.59	37.27
H-2	17	-42.29	66.04	17	-3.59	14.37	17	-2.65	16.50
CHRYSLER CORP									
2	42	142.62	73.23	42	129.83	104.24	42	96.14	37.01
H	41	121.76	73.49	41	126.29	105.11	41	99.83	38.11
H-2	41	-22.37	88.56	41	-4.22	18.19	41	2.88	18.80
FORD MOTORS									
2	59	205.53	291.09	59	149.88	126.52	59	117.41	66.41
H	59	147.12	101.22	59	129.68	66.46	59	117.71	59.46
H-2	59	-58.41	243.71	59	-20.20	97.18	59	0.31	21.54
CHEVROLET									
2	48	240.48	184.91	48	169.52	319.79	48	83.75	53.40
H	46	181.74	94.88	46	113.33	60.98	46	83.52	46.70
H-2	46	-49.50	153.86	46	-55.74	307.37	46	-2.78	22.56
PONTIAC									
2	8	174.75	150.44	8	97.88	31.55	8	85.75	43.50
H	8	151.25	140.21	8	92.38	29.36	8	83.63	41.38
H-2	8	-23.50	82.30	8	-5.50	23.97	8	-2.13	27.65
OLDSMOBILE									
2	12	164.92	161.62	12	103.92	53.03	12	75.42	39.43
H	11	147.18	143.26	11	106.64	51.64	11	77.82	36.04
H-2	11	-27.45	35.49	11	1.82	10.95	11	0.45	11.78
BUICK									
2	16	202.38	206.56	16	89.06	58.78	16	69.13	38.88
H	14	192.57	223.42	14	95.57	53.54	14	68.71	34.36
H-2	14	-18.64	47.88	14	3.93	31.93	14	-0.21	20.28
CADILLAC									
2	3	37.33	20.98	3	42.67	15.18	3	28.67	16.07
H	3	29.00	9.54	3	39.33	14.64	3	29.33	14.74
H-2	3	-8.33	11.85	3	-3.33	0.58	3	0.67	1.53
ALL GENERAL MOTORS									
2	87	210.00	182.46	87	131.40	241.52	87	78.20	48.02
H	82	170.39	135.11	82	104.65	56.26	82	78.26	42.87
H-2	82	-37.23	120.30	82	-31.01	231.32	82	-1.72	20.83
VOLKSWAGEN									
2	20	207.60	173.61	20	140.05	56.02	20	122.40	53.30
H	17	171.06	55.51	17	130.71	67.32	17	132.59	64.18
H-2	17	-40.12	186.42	17	-5.88	51.13	17	15.35	56.66
ALL MANUFACTURERS									
2	225	192.95	198.45	225	136.10	170.43	225	96.74	54.14
H	216	151.43	106.91	216	118.81	71.29	216	98.27	51.80
H-2	216	-40.82	161.24	216	-18.84	152.01	216	0.98	25.19

THREE CITIES 1971 VEHICLE KEYMODE STATISTICS - CARBON MONOXIDE

	IDLE			LOW CRUISE			HIGH CRUISE		
PHASE	N	MEAN	S.D.	N	MEAN	S.D.	N	MEAN	S.D.
AMERICAN MOTORS									
2	17	3.35	2.75	17	0.24	0.28	17	0.17	0.10
H	17	2.03	2.55	17	0.22	0.15	17	0.16	0.07
H-2	17	-1.33	1.92	17	-0.02	0.21	17	-0.01	0.06
CHRYSLER CORP									
2	42	3.16	2.44	42	0.58	0.63	42	0.69	0.63
H	41	1.50	1.90	41	0.43	0.48	41	0.67	0.63
H-2	41	-1.70	2.11	41	-0.17	0.46	41	-0.03	0.24
FORD MOTORS									
2	59	3.58	3.10	59	0.57	1.33	59	0.42	0.71
H	59	1.73	2.34	59	0.32	0.53	59	0.34	0.39
H-2	59	-1.85	2.44	59	-0.25	1.03	59	-0.08	0.61
CHEVROLET									
2	48	2.85	3.04	48	0.40	0.73	48	0.54	0.72
H	46	1.74	2.26	46	0.30	0.47	46	0.44	0.52
H-2	46	-1.22	2.84	46	-0.11	0.81	46	-0.12	0.34
PONTIAC									
2	8	1.61	3.09	8	0.28	0.27	8	0.25	0.30
H	8	0.40	0.32	8	0.29	0.26	8	0.23	0.20
H-2	8	-1.20	3.04	8	0.01	0.07	8	-0.01	0.11
OLDSMOBILE									
2	12	1.07	1.45	12	0.31	0.45	12	0.34	0.44
H	11	0.63	0.64	11	0.26	0.29	11	0.24	0.17
H-2	11	-0.48	1.06	11	-0.07	0.20	11	-0.11	0.43
BUICK									
2	16	1.99	1.94	16	0.45	0.56	16	0.26	0.36
H	14	1.04	0.51	14	0.35	0.25	14	0.17	0.10
H-2	14	-0.85	1.80	14	-0.14	0.60	14	-0.10	0.32
CADILLAC									
2	3	0.71	0.38	3	0.71	0.33	3	0.21	0.05
H	3	0.65	0.46	3	0.76	0.49	3	0.24	0.12
H-2	3	-0.05	0.09	3	0.05	0.17	3	0.03	0.12
ALL GENERAL MOTORS									
2	87	2.26	2.70	87	0.40	0.62	87	0.42	0.60
H	82	1.30	1.79	82	0.32	0.40	82	0.34	0.41
H-2	82	-1.01	2.46	82	-0.09	0.65	82	-0.10	0.32
VOLKSWAGEN									
2	20	3.21	2.04	20	1.49	1.34	20	1.12	0.99
H	17	3.06	1.95	17	1.59	2.52	17	1.19	1.04
H-2	17	-0.43	1.21	17	0.01	1.87	17	0.02	0.46
ALL MANUFACTURERS									
2	225	2.94	2.76	225	0.56	0.97	225	0.51	0.69
H	216	1.65	2.08	216	0.43	0.88	216	0.45	0.57
H-2	216	-1.35	2.30	216	-0.13	0.87	216	-0.06	0.41

THREE CITIES 1971 VEHICLE KEYMODE STATISTICS - NITROGEN OXIDE

PHASE	IDLE N	IDLE MEAN	IDLE S.D.	LOW CRUISE N	LOW CRUISE MEAN	LOW CRUISE S.D.	HIGH CRUISE N	HIGH CRUISE MEAN	HIGH CRUISE S.D.
AMERICAN MOTORS									
2	17	102.29	32.78	17	1779.94	658.02	17	3012.12	813.48
H	17	114.12	36.92	17	1703.88	736.40	17	2910.94	859.20
H-2	17	11.82	30.78	17	-76.06	439.53	17	-101.18	415.96
CHRYSLER CORP									
2	42	107.21	41.72	42	1697.45	646.11	42	2752.83	740.42
H	41	121.63	54.16	41	1663.00	579.48	41	2696.51	717.78
H-2	41	15.80	44.31	41	-11.02	289.81	41	-40.20	379.09
FORD MOTORS									
2	59	183.27	118.59	59	1593.86	778.75	59	2700.12	726.70
H	59	251.54	233.73	59	1628.12	785.29	59	2813.86	674.36
H-2	59	68.27	224.58	59	34.25	536.12	59	113.75	555.26
CHEVROLET									
2	48	180.06	130.26	48	1626.44	664.69	48	2115.77	637.13
H	46	196.83	143.61	46	1578.85	627.70	46	2047.65	573.07
H-2	46	17.61	122.11	46	-90.72	483.86	46	-106.04	378.50
PONTIAC									
2	8	300.63	279.28	8	1408.38	218.12	8	2687.88	781.26
H	8	288.63	209.93	8	1231.63	345.05	8	2501.88	774.54
H-2	8	-12.00	251.25	8	-176.75	269.63	8	-146.00	798.61
OLDSMOBILE									
2	12	149.00	47.08	12	1749.67	714.88	12	2717.33	721.82
H	11	160.73	50.33	11	1882.91	768.89	11	2830.18	800.58
H-2	11	4.45	24.82	11	89.91	76.31	11	53.45	320.90
BUICK									
2	16	136.19	63.18	16	922.44	331.48	16	2383.31	938.03
H	14	147.36	45.67	14	1135.43	752.31	14	2283.29	1053.08
H-2	14	2.57	34.62	14	176.07	569.14	14	-98.64	459.09
CADILLAC									
2	3	55.67	27.79	3	818.67	291.04	3	2228.67	850.45
H	3	67.00	27.22	3	838.00	251.68	3	2217.67	435.61
H-2	3	11.33	15.18	3	19.33	186.98	3	-11.00	415.24
ALL GENERAL MOTORS									
2	87	174.51	137.74	87	1466.06	653.70	87	2304.45	753.27
H	82	187.74	133.81	82	1482.95	681.20	82	2243.39	758.09
H-2	82	10.16	118.78	82	-25.30	451.11	82	-87.71	434.46
VOLKSWAGEN									
2	20	110.25	53.56	20	818.25	407.90	20	2050.65	722.09
H	17	121.71	61.71	17	877.76	558.89	17	2019.00	661.65
H-2	17	7.94	39.88	17	39.47	340.19	17	-59.88	393.12
ALL MANUFACTURERS									
2	225	153.08	112.86	225	1508.90	707.10	225	2522.81	788.17
H	216	181.63	158.43	216	1526.54	714.24	216	2520.10	783.15
H-2	216	27.06	141.85	216	-5.22	440.41	216	-22.53	461.27